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ORIGINAL ARTICLES.

ALCOHOLIC INTOLERANCE AND PREDISPOSITIONS.

Read in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

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The fact that many persons use spirits to excess at intervals, or in moderation for a life time, and from superficial observation are apparently no worse, is both misleading and dangerous. In one case it conveys the impression that spirits are harmless in small quantities, and occasional excesses are of little injury from which restoration quickly follows. In the second case the danger of repeated pathologic disturbances are masked until organic changes take place, and most serious results follow, that are not apparent except in other departures from health.

The so-called moderate user of spirits when examined critically appears differently from what he himself or friends suppose. His fancied vigor and mental health is an illusion. His freedom from pain or discomfort is the work of narcotism and diminished nerve sensibilities. Constant dulling of the senses by the steady use of small doses of alcohol removes all warnings of danger, and increases the delusions of power and capacity to determine the relation of surroundings, and proper adjustment to them. This goes on slowly or rapidly, and the effects accumulate, always marked and along unusual lines not recognized. By and by, alterations in character and conduct appear, changes of the emotions and higher brain power, are manifest in irritability, suspicion, credulity and instability. Then neuritis, rheumatism, indigestion and various complex neurotic disturbances appear. Finally, death follows some acute inflammation or fatty degeneration of the liver or heart, or lungs. Bright's disease, heart failure or the very comprehensive term neurasthenia, are used to express states of degeneration, specifically due to alcohol and its accumulative effects on the cell and nerve organization.

Recently Dr. Pierret, of Lyons, and Dr. Lancereaux, of Paris, have presented elaborate studies of the effects of moderate drinking of wine, beer and the stronger alcohols, confirming the conclusions of other physicians in a very marked way, showing that spirits in small quantities and taken at intervals, as at meals, or at stated times, is always injurious. This injury is poisoning, cell starvation and exhaustion which may not be prominent in some cases or appear to materially disturb the normal relations of life and living, but its accumulative degenerations after a time break out in the next generation with great certainty. This tolerance of spirits always produces predisposition in the next or succeeding generations.

The capacity to use spirits in small quantities at intervals, becomes incapacity in the next generation. The intolerance of spirits extends from indifference up to positive repugnance and acute poisoning. Many persons manifest indifference to the taste and effects of spirits. Like tobacco, at first it is repugnant, later they are not unpleasantly affected by it in small doses. The increased action of the heart and circulation of the blood to the brain is pleasing within certain limits; beyond this, pain and suffering forbid its further use. This is a common form of intolerance. Spirits are usually taken in company, from contagion or surroundings. After a certain quantity is used, the system repels it, and headache, vertigo and distress follow.

This intolerance is overcome in some cases, and paroxysmal perodicity is the form of the inebriety that follows. In some cases a marked taste and repugnance is common. Spirits are often drank impulsively and in large quantities, with condiments to conceal the flavor. In these cases there has been a natural intolerance formerly which has been overcome by repeated effort. In other cases, this intolerance after being held in abeyance for a time, asserts itself in an emphatic change to rigid abstinence and bitter denunciations of persons who use spirits. Many of the most dogmatic reformers who have used spirits at first, then suddenly stopped, have had naturally a constitutional intolerance of spirits. This has been overcome by circumstance, principally surroundings, ill health and want of training. Finally, from some unknown causes, this repelling diathesis has attained power to assert itself over the acquired taste and forced physiologic abstinence. To the man, it is simply an effort of the will which he thinks all persons can use, but literally it is the operation of physiologic laws, not his will.

Many very interesting cases of marked changes of living and character are made examples of theories of the will, of moral force and of faith, that are untrue and misleading.

This form of intolerance may appear after the first toxic use of spirits. The intoxication has created a profound impression of antagonism to any farther use of spirits. This is both physical and mental, the pain and suffering from the action of spirits is recalled by the memory and mind so vividly, as to repel any use of spirits again. Some persons will suffer from nausea and intense depression from the odor of spirits, and even the sight of an intoxicated man is painful. Another class, after the first intoxication, are never able to retain spirits without causing most intense irritation and nausea. I have met with cases who have used beer and wine freely for varying periods before 20, then suddenly developed an intense intolerance, and ever after suf-

fered from severe headache when any form of spirits was taken. I have seen two cases, both direct descendants from inebriate parents, who could not bear any form of spirits. They suffered from functional paralysis of the stomach, ending in acute vomiting and cardiac feebleness. Both of these men enjoyed the odor of spirits, but could not use it in any form.

Many of these cases of intolerance for spirits are the direct descendants of inebriates. Others are from some allied neurotic families, in which unusual drug sensitiveness prevails. Functional peculiarities are always more noted among neurotics and tolerances or intolerances of various drugs. In the normal man not weighed down by abnormal heredity, spirits would be naturally more or less intolerant. This would follow from the complex physiologic action of alcohol, viz., the sudden rise of the heart's action, disturbance of sensation and perversion of nutrition that always follow from its use. In a neurotic this will be concealed or exaggerated. Concealed in the moderate drinker, and exaggerated in the violent opposition mentally and physically to its use. The *predisposition* to the use of spirits is a direct or indirect heredity, and a neurosis from some allied condition of degeneration. In other cases it is a defect due to some abnormal condition of the brain centers.

The largest number of persons in which this condition exists, experience very pleasant effects from the use of spirits. A sense of exhilaration and apparent physical and mental vigor, together with a certain nerve rest, and power of adaptability and enjoyment of the surroundings comes from its use. The ordinary depressions and reactions from the action of alcohol on the heart and nerve centers are not prominent or noticeable, and are not regarded as due to spirits. This pleasing physiologic state continues and fosters egotism and delusions of strength and power of control. The constant dulling of the senses removes all consciousness of danger and capacity to judge of their actual condition. Later, a variety of complex disorders appear, with changes of character and irregularity of conduct. If the man lives in an automatic circle these changes are unnoticed, and he may continue a long time, only increasing the spirits for its effects. If he lives in a circle of much strain and change he will become an inebriate and show marked symptoms of degeneration and disease. Acute inflammations of the liver, stomach, lungs, and heart failure are common. Rheumatism and neurotic disorders of very complex forms appear. Inebriety appears as a rule in all of these cases. Drug taking of all kinds follows naturally. The delusions which begins early in the case continue with increasing intensity. This is manifest in the warm defense of the moderate use of alcohol, and the delusion that spirits have some real virtue and power to help on toward an ideal physical and mental health.

I have seen cases in which the mind was wrecked and imbecile in all other lines, yet clear and emphatic in defense of the moderate use of spirits. This delusion clings to the mind tenaciously. When the case has recovered, and a long period of abstinence has supervened, it will appear in the efforts to use spirits again moderately. The physiologic impression coming from heredity, and fastened in the mind by the early exhilaration from the use of spirits, is seldom effaced. The brain is permanently impaired, the predisposition for alcohol, or any narcotic drugs, has become a dominant idea that may be concealed for a time but is never broken up.

A certain number of persons realize early the physiologic defect of organization, and by the most heroic efforts, avoid wreck in total abstinence. In such cases certain physical conditions, and environment, are the real exacting causes. If these can be obviated or provided against, they can overcome this tendency—the value of institutional treatment is to teach these physical causes and the way to avoid them; to point out the danger, not from spirits and drugs alone, but the conditions which call for the seductive effects of such drugs. This is vaguely outlined in the confused literature of moralists, who speak of the battles with the demon appetite; of the sinful tendency to be overcome by prayer; of the influence of the lower nature to attain supremacy; of the natural tendency of man to go down, to become an animal, to give free reign to his lower instincts. In reality this, when seen from a higher point of view, is physical degeneration, with consciousness of its presence and tendency, and expectation of being able to control it. In a certain number of cases all consciousness of the real condition is absent. Paralysis exists from the beginning; in others only a partial palsy is present. In the former, delusional efforts for restoration, and delusional confidence in recovery, with continuous failures, are common symptoms, In the latter, successful and continued efforts along natural lines of cause and effect, are followed by both temporary and permanent restoration.

Many men in active life, are profoundly conscious of the danger of a single glass of spirits. They recognize the degenerative predisposition that is present urging them to take spirits, but overcome this tendency. Such cases often appeal to me for counsel to acquire new strength for this struggle. Suicide is the frequent ending of such cases; finding this craze for relief increasing and being overcome by it, give way to melancholy. This predisposition and central nerve degeneration not unfrequently dies out in middle or later life. Some unknown physiologic change takes place in the nerve centers and all desire or taste for spirits disappears. Conditions of ill health, surroundings and other causes are inoperative. He never drinks again. The taste of spirits is repelling and seem to have no effect. Such men often explain this as a mere effort of the will, or the power of some supernatural force, or the effect of some drug, or remedial appliance.

This predisposition in other cases never dies out, but always remains slumbering and ready to be fanned into a mild flame at any moment. In certain states of living and surroundings it never appears; in others, it is dominant beyond the power of control. Mental contagion, strain, irregularity of life and living, bring it into prominence. Again this degeneration breaks out at distinct periods of life then dies out, only to appear in some other form. The period of adolescence is often marked by alcoholic excess, which subsides in manhood, or appears in the senile stage again.

There are undoubtedly certain periods of life which are favorable for the development of these predispositions to seek relief from spirits or drugs. One of these periods is the menopause in women, and the senile stage in man. A vast region of unexplored facts stretch out in all directions from this point. Alcoholic intolerance and alcoholic predispositions

are physiologic and psychologic facts within the observation of any one. They are also unknown pathologic conditions, of both defective growth, and exhaustion and poisoning. The normal or approximately healthy man is not predisposed to use alcohol or narcotic drugs. While alcohol is not pleasing alone, when mixed in water and flavoring substances it may be tolerated, but when its effects are realized a natural intolerance begins. Unlike any other drug it conceals the conditions which it provokes, until such a time when they become fixed, then repugnance begins. This persistent concealment breaks out in the next generation as a physiologic bias and tendency to use the same drugs, to conceal the degeneration produced by the same causes. This persistent poisoning incapacitates and limits the vigor of the next life, giving it certain impulses to exhaustion; and breaking up its power of adaptability, causes pain and suffering which seeks relief in the same way. These subtle forces of heredity and morbid impulses, whose causes are only faintly comprehended, are expressed in these terms, intolerance and predisposition. Along this line we need new studies.

ALCOHOL IN THE GRIPPE.

Read in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

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The present form of the grippe is an infectious disease finding its way through the respiratory mucous membrane, and the resulting toxins, by their migrations, tend to induce a lasting lassitude and depression that are characteristic symptoms in many of the cases. The primary cause of this disease is the susceptibility of the system. This is shown by the fact that some persons enjoy entire freedom, while others succumb to its influence every time it appears.

There are many conditions that favor it. What is called a poor circulation is accompanied by an inability to throw off morbific influences, and persons in that condition are likely to suffer from every epidemic. The same applies to indigestion, for when the body is not well nourished there is but feeble reactive force. Those having a torpid liver find the grippe an added burden to the discomfort of life, and those with an inactive skin are still more likely to suffer from its baneful influence, but among the more prominent causes of susceptibility may be classed the almost universal habit of drug taking, from the mild tonics, to patent medicines. Whenever one is out of order in any way, the first thing seems to be to swallow something, instead of trying to find out the cause of the trouble and seeking to obviate it by regulating the habits of life. This custom tends continually to lower the tone of the system, and the more it is indulged in the more evident becomes the apparent necessity of continuing the down-hill course. A large share of the deterioriation of our people is due to the use of alcoholic tonics, or stimulants, as they are sometimes called. The majority do not look beyond the fact that they seem to feel better after their use, but this feeling comes from the benumbing action of the alcohol itself, and never from any building up action of the drug, because it has no such action. What is supposed by some to be that action is only an irritation resulting from the efforts of the system to get rid of the drug. It only exhausts the vitality so much quicker, and therefore alcohol should always be considered a poison to the human system, and is already so considered by some of the highest medical authorities. The cells of the brain lie buried in a nutrient plasma, and their vigor depends upon the quality of this plasma. Should this become impregnated with alcohol in even a small degree, the action would necessarily be, so far, an abnormal one. These cells become exhausted from their natural activity and are then shrunken, depending for renewal on rest and the nutrient plasma by which they are surrounded. This has been demonstrated by experiments on dogs and pigeons. Out of a number, some were killed, and on examination the brain cells were found well nourished and full, while their companions, after exercise and fatigue, showed shrunken brain cells.

Irritability always follows exhaustion in a nerve cell, by whatever cause excited, and there is every reason to believe that insomnia, neurasthenia, and acute insanity are due to fatigue of the nerve cells through failure of the nutrient plasma to furnish the necessary nutriment for restoration. There is a collapse that frequently comes after the use of so-called tonics and stimulants. Outraged nature cries aloud for help. This it is that causes so many to return to their cups. The condition may be called brain and nerve exhaustion. It is found most difficult to treat by ordinary methods, because these nearly all depend upon rousing up the vitality by recourse to some new irritant or drug.

The strain upon the nervous energy of the individual in the pressure of modern civilization is so great that many, not knowing or realizing the inevitable result, and feeling that there is no time for rest and recuperation, seek in alcohol or some narcotic a surcease for their jaded feelings. This, with some more quickly than with others, is sure to bring about a condition of neurasthenia, so aptly termed by Dr. Beard a chronic functional disease of the nervous system, the basis of which is impoverishment of the nervous tissue in excess of repair, which may exist without any evidence of profound organic complication. We have daily before our eyes a profusion of examples of the various forms of nervous prostration. Experts can readily recognize in their patients underlying symptoms of nerve exhaustion, which their personal record showed had long antedated the expression of any distinct climax of disease.

It is difficult for the ordinary mind to see the end from the beginning, for while some individuals, probably from inheritance from a sound ancestry, are enabled to ignore the laws of health for a long time, the superficial observer can point to them with pride and say: "They do no harm, in moderation." Even the Royal Commission of England reports that the temperate use of opium in India should be viewed in the same light as the temperate use of alcohol in England, which according to their measure is harmful or harmless according to the amount and discretion with which it is used. This is altogether too much of a commercial report. It needs a commission from America, France, or possibly Germany, to get a perfectly unbiased opinion. The question of the toleration of narcotics is not settled and never will be until it is settled right. The consensus of medical opinion is coming more and more to the conclusion that alcohol is only and always a poison, and

therefore has no place in the human economy. Such authority as Dr. Forel, the famous specialist of the University of Zurich, says: "Alcohol, even when diluted as in wine, beer and cider, is a poison which changes pathologically the tissues of the body and leads to fatty degeneration. I am one who assigns but a very subordinate position to alcohol as a medicine."

For these reasons we contend that alcohol has no place in the treatment of grippe: on the contrary, it is because of the too frequent use of this and other narcotics that epidemics, particularly the grippe, make such fearful headway in our land, and such must inevitably be the rule until our people study the laws of health and obey them.

The injurious and deteriorating effect of the use of any narcotic, tobacco not excepted, is daily demonstrated to those who have eyes to see. Too frequently there is to be found in the daily papers an account of the physical wreck of some young man from the excessive use of the drug. As the future of our nation depends upon the young, too much can not be done to save them from physical degeneracy. Tea and coffee also belong in the same category of irritant drugs, which by rousing the vital forces to get rid of the poison, provoke the action which is mistakenly supposed to be an added force, whereas that action is only one of self-preservation. It will readily be seen how much supporting or building-up of the system there is in such substances by trying to live on them to the exclusion of other things. The result would quickly prove the absurdity of the idea.

Having demonstrated that alcohol is in no sense a relief or remedy for the grippe, it may be well to consider briefly what remedies are offered for this disease, and the reasons why they are used, and also, what is more desirable, present a sure method of prevention and help. For instance, quinin is ranked as a powerful germ destroyer, and its use is considered by many as of paramount importance. Quinin is essentially a nerve poison and capable of producing a profound disturbance of the nervous centers. Practicing physicians are familiar with instances that are rightly accused by patients as having permanently damaged one or another of the nerve functions. A drug of such potency for evil ought to be employed with the greatest care, and never when a milder agency will equally well or better secure the result. Its tolerance by a patient is simply a test of the power of resistance of his nervous system. The increased nervousness of some portions of our population is undoubtedly due to a previous saturating of the system with this recognized anti-periodic. Exceedingly pernicious is the practice that has obtained in some sections of dosing children with this drug. It is sure to lay the foundation of a miserable neurasthenic condition in after life. Attention to the digestive tract by following hygienic and dietetic treatment is the all-important and all-sufficient course to pursue in such cases. Strychnin has been used to some extent. The drug antipyrin is also used, and whenever there is a fever that remedy tends to reduce it, and thus seems to have a good effect, but its action may be more dangerous than the grippe itself. The value of such supposed remedies depends entirely upon the vital reaction of the patient. Again, it is recommended as a *sine qua non* that the patient should be confined to the house or bed, with absolute rest, according to the severity of the attack. Certainly, the isolation of cases tends to restrict the spread of the disease, but when the best conditions are secured such a course is unnecessary.

The value of rest and passive exercise is receiving universal recognition as a means of forestalling the cause of disease and building up physiologic barriers against its invasion. Brain workers should secure at least one month's vacation out of the twelve. There is no new order of sleep, of rest, or of nutrition. Chemistry can never supply this need, and as all nerve derangement is indicative of innutrition, the first step toward recovery is rest of mind and body.

The remedy that does not draw upon the vitality, but rather conserves its force, and relieves the tortured body by simple elimination, is the most desirable, and this we find fulfilled in the Turkish bath. Its first effect is to quicken the circulation and render the skin active. By this means the reactive power of the system is brought up to its highest vigor, and the action of every function is made more acute. The heat of the bath is a perfect germ destroyer, and during the sweating stage there is a continuous elimination of all poisons, and the process needs only to be persevered in and repeated until the body is freed and regains its normal tone.

Those who have had the privilege of using the hot air treatment in such cases find that it conserves all the vital powers and restores normal action by encouraging a return of the circulation to its natural condition, both in frequency and fullness, and thus gradually and surely secures the desired result. Thus the action of the Turkish bath will not only cure, but what is more important, its frequent use will prevent such diseased conditions. When a person recovers under the use of drugs he is weakened by the drain upon his vitality; on the contrary, by the Turkish bath treatment, his whole system is invigorated, and he is better able to resist all disease.

Those who are in a position where they can not take advantage of the Turkish bath, should bear in mind its vital principle, which is sweating produced by heat. A simple but effectual manner of securing this sweating is by means of the hot sitz bath, hot foot bath, or drinking hot water and going to bed and covering the body with extra clothing. After a profuse sweating, carefully bathe the body in tepid water, gradually cooling it to a normal temperature and avoiding unnecessary exposure. Many cases have been relieved by this simple treatment persevered in. By all means should the patient sleep in pure air and eat as little as possible, and that only when hungry. It is also expedient to secure an abundance of rest after the bath.

An interesting statement in this connection was published in the *London Standard*, Jan. 2, 1890, written by a late surgeon of the Gold Coast of Africa, in which he says: "From what I have witnessed on the continent and in London, the present epidemic which is causing so much consternation, does not appear to be true influenza. Some of the worst cases remind me of a disease I saw some years ago among the natives of the swamps of the Niger, which in them often develops into fatal inflammation of the lungs. Irrespective of disinfectants and inhalations there is a simple, effective and ready remedy, the juice of oranges in large quantities, not of two or three, but of dozens. The first unpleasant symptoms disappear, and the acid citrate of potash of the juice, by a sim-

ple chemic action, decreases the amount of fibrin in the blood to an extent which prevents the development of pneumonia."

In our opinion, therefore, the wise man is he who, with a cheerful spirit, a well-nourished and properly clothed body, uniformly seeks the purifying and invigorating influence of the Turkish bath, and when any such epidemic appears he needs only a little more fervency in his devotions to the religion of cleanliness. It is an important work for us to educate the people to see and understand the far-reaching effectiveness of the Turkish bath, and when large public Turkish baths are demanded by the community, and built by the city, and the people shall have learned to live more in accordance with the laws of health, our land will be freed, not only from the grippe, but from all other forms of pestilence.

Experience proves that the effect of alcohol on the tissues of the body is in every way deteriorating, while experience also proves in the most convincing manner, that the action of the Turkish bath continually tends to renew and build up every tissue. We know also that alcohol interferes with the nutritive processes and hinders elimination, while the Turkish bath promotes the natural action of the nutritive powers, and by throwing off the *débris*, or used-up tissue, from the system, creates a demand and leaves room for a new supply. Again, it is a fact that alcohol benumbs the nerves and interferes with the coördinating powers of the brain itself, the more alcohol the more disturbance is produced, while the action of the Turkish bath soothes irritated nerves and gives clearer and more powerful mental vision, because it renders more pure the blood that furnishes nutriment to the brain.

It would seem evident to the average intelligence that the Turkish bath is a far more rational remedy for the grippe than drugs or alcohol.

81 Columbia Heights.

FATALITY OF SURGICAL OPERATIONS IN ALCOHOLISM.

Read in the Section on State Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY I. N. QUIMBY, M.D.

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I thought it might be of some interest to call the attention of this Section of our ASSOCIATION to a form of rheumatism which has frequently come under my observation during the last twenty years, and which has not been fully, I think, recognized as a distinctive form of that disease by the profession. I have had some twenty cases of this form of rheumatism during the above mentioned period.

Not to take up the time of the Section, I will only describe two or three typical cases to illustrate the few remarks I have to make. This form of rheumatism apparently arises wholly from the moderate but continuous use of fermented and distilled liquors and has been aptly termed alcoholic rheumatism.

I think too many of us in our daily rounds in the treatment of the more common forms of diseases, are too apt, for want of time or patient investigation, to fall in the habit of a sort of routine way of diagnosis and treatment, the result of which is often unfortunate to patient and physician. The first case I will describe is somewhat unique.

In the fall of 1875, I was called to see Mr. M., a builder by profession, aged 48, who gave me the following history:

He had always been healthy and apparently well, but had been for the previous fifteen years a moderate but continuous user of fermented and distilled liquors, when he was taken with what was described as an acute attack of rheumatism in his left shoulder and elbow joint, with some hoarseness. After several weeks of treatment with colchicum, iodid of potassium, etc., he recovered from the attack of rheumatism, but the hoarseness, which was considerable, still continued to a greater or less degree. He remained in apparent good health for about six or seven months when he was again similarly attacked with rheumatism but with increased amount of hoarseness, articulating with difficulty. The patient was treated again in about the same way by the same physician, but was relieved less promptly and was left with increased amount of hoarseness. On the third attack, which occurred three or four months after the second attack, I was called to the case, not so much on account of the rheumatism, but on account of the severe attack of aphonia.

No doubt but what there are cases of laryngeal rheumatism occasionally occurring, owing to its complex anatomic structure, and its location between the pharynx and the bronchi, both of which are susceptible of inflammation, separately or in connection with an attack of articular rheumatism, from which he had been suffering for over a year, not being able to speak above a whisper. The laryngeal trouble apparently was the most prominent feature of the present attack.

The patient had been treated by a competent and experienced physician using the most approved remedies for rheumatism and its concomitants at that time.

I felt that there was some complication in the disease or deficiency in treatment, which caused a frequent return of the rheumatism, and this continuous and persistent aphonia; therefore, after a thorough examination of the case and analysis of the urine, and satisfying myself that there was no tumor pressing on the trachea or larynx, and finding that he had continued his moderate yet continuous methods of drinking alcoholic liquors, I arrived at the conclusion that it was this imbibation of alcoholic narcotic irritants which was producing some pathogenic microorganisms in the various tissues of the body, which had much to do, perhaps, with keeping up the rheumatic disturbances and the serious and persistent aphonia from which he has been suffering for over a year, not being able to speak above a whisper, and which was the most prominent feature of the present attack.

I, therefore, began a reconstructive course of treatment, not by giving the general rheumatic remedies, but those of a general tendency to restore the system to its normal condition. I directed that all alcoholic liquors of whatever nature should be immediately discontinued. This was somewhat reluctantly, but immediately complied with. Then I gave the patient 5 gr. calomel, 10 gr. bis. sub. carb. ½ gr. ipecac, followed in a few hours by a saline solution of Rochelle salts. He was also given a saline bath, temperature 90, for ten minutes, after which he was put upon the following treatment:

Bismuth sub. carb.	2 drams.	8
Tinc. nux. vom.	2 drams.	8
Belladonna	1 gr.	06
Aqua. mint. pip	3 oz.	95
Syr. P. V.	1 oz.	32

One teaspoonful every two hours.

A diet of a bland nature was ordered, soups, toast, milk, canned corn, a limited amount of fruits, stewed prunes and oranges, etc.

This treatment with some variation, was kept up for two or three weeks, which was followed by marked improvement, the rheumatism disappearing in the joints and the aphonia markedly relieved.

At this time the character of treatment was somewhat modified. I continued the bismuth in combination with strychnin, baths, and occasionally, say twice a week, a 5 gr. blue pill followed by the saline solution.

At the end of three more weeks of this somewhat modified treatment, the aphonia almost entirely disappeared. At the end of six months he was apparently a well man, his voice was entirely restored. This patient remained practically a well man for over five years, when he again resumed his moderate drinking, which he kept up for about two years, when his rheumatism and hoarseness reappeared, although the attack was not so persistent nor severe as formerly.

Recognizing that alcohol was the main basis of the disease, I directed him again to desist from the use of all fermented or alcoholic beverages. After acting upon the bowels pretty freely by 5 gr. calomel, bismuth and ipecac, followed by the saline solution and warm baths, I then kept him for twenty-four hours on 20 gr. doses of salicylate of soda, every two hours, which relieved the rheumatism. After which I put him upon the same general treatment as formerly, and in the course of three or four weeks he was again an apparently well man.

I treated the patient for three attacks, covering a period of about fifteen years, for practically the same disease, with the same treatment and the same result.

As he removed from our city, I lost sight of the case.

The second case I will describe is a German grocer, aged 55, who had nearly all his life been a moderate drinker of the alcoholics, mostly beer, and who has had repeated attacks for the past twelve years of articular rheumatism in both ankles with more or less edema of the feet. These attacks were frequently accompanied with severe lumbago. He had been treated by a number of physicians, and, as he said, by all kinds of medicines, including electricity and Turkish baths, etc., but without permanent relief. During all these years of suffering he had continued his moderate use of the alcoholics; none of his physicians, some four or five, had apparently realized or taken into consideration his drinking habit as a factor in the causation of his rheumatism. His last attack was in the fall of 1888, when he was taken with acute rheumatic pericarditis, at which time I was called to see the case and found the patient with anxious look and suffering a good deal of pain around the region of the heart. The action of the heart was irregular and somewhat tumultuous, and the sound lacked clearness; the pulse was 130, with strong, quick beats, his skin dry and hot and temperature 103; coated tongue, offensive breath, etc. As the pain from the pericarditis was so acute, I was obliged to resort to venesection, which gave great and prompt relief, after which I gave an active mercurial purgative. I then put him upon bromid of amo. 10 gr., extract belladonna one-tenth gr., with nauseating doses of ipecac every two hours. The patient was kept upon this treatment until the active symptoms had subsided, when I put him upon about the same reconstructive treatment as in the former patient, previously described, interdicting all fermented and alcoholic liquors. I kept the patient upon about the same treatment, and following my advice he abstained absolutely from all alcoholic liquors, when at the end of two or three months he seemed to have entirely recovered and had not been so well, as he expressed it, in ten years.

He kept in good health and abstained from liquor from 1888 to 1892, then thought, as he said, that he was so well that he could return with impunity to his former imbibation of beer. But after indulging in his old habits for a little over a year, he was attacked again with an acute attack of rheumatism in the right knee and ankle (with slight amount of albumin in the urine) which laid him up for two or three weeks. I put him on about the same general reconstructive treatment except venesection, as previously given. This treatment was continued for a month, when he apparently had recovered again, and has remained well up to the present time, although he has been compelled to become a total abstainer, as he has found by sad but valuable experience, that when he returns to his cups his rheumatism returns, therefore one of the most valuable remedial agents for this form of rheumatism is abstinence from alcoholics.

I have described the above cases somewhat minutely as typifying some twenty other cases mentioned in this paper, and also to call the attention of the profession sharply to the fact that fermented and distilled liquor, although taken in moderation, was the principal factor in producing a microörganism, which so altered the blood and cell growth as to produce this species of alcoholic rheumatism. Alcohol has a tendency to encourage urea and uric acid in the blood and tissues, and cause a precipitation of the uric acid in the joints in acute alcoholic rheumatism. If this then is a fact, and I do not think that it can be disputed by any close observer, it would not take very much observation to recognize the fact that users of alcohol, even in a moderate way, are often very seriously affected thereby; just what form or kind of microörganism this is, or upon what organ it is deposited, or its method of generating disease, is yet far from positive solution.

We are just at the dawn of a new era and in a great field of investigation. A glimmer of light is being observed and some facts have already been brought forth by such patient investigators as Drs. Richardson, Norman Kerr, Davis, Kellogg, Crothers, Magnan and many others, who have demonstrated that alcohol in its most imperceptible action upon the tissues and cells is a great moving factor in the production of some of the most serious and complicated diseases.

What physician would be so bold or hazardous at this time as to assert that the use of alcohol even in a moderate way did not have a tendency to produce various affections, such as congestion, ulceration and thickening of the gastric mucous membrane of the stomach, which did not in its turn produce indigestion, mal-nutrition and mal-assimilation, the result of

which would have a tendency to produce disease of the kidneys, pernicious anemia, cirrhosis of the liver, fatty degeneration of the heart, tubercular disease of the lungs, cerebral spinal irritation, with softening and lessening of the resisting power of the red corpuscles of the blood, producing various affections of the respiratory, digestive and nervous systems.

It is stated by Dr. Nordau, the famous writer and philosopher, who combines scientific knowledge with literary powers and originality of thought, that there is going on a general degeneration of the race. And who is bold enough at this period of the world's history to successfully deny or refute it?

The symptoms of degeneracy are physical and mental; the physical characteristic as exhibited in the multiple and stunted growth in the first line of asymmetry, the peculiar and unequal development of the two halves of the face and cranium, the frequent imperfection in the development of the external ear which may be conspicuous for its enormous size, either clinging close to the head or protruding from it like a handle, and the lobe of which is either lacking or too largely developed and the helix of which is not properly involuted; moreover, we have the innumerable cases of strabismus, irregular angle and unequal apertures, defective and imperfect vision, hair lip, irregularity in position and form of the teeth, deficiency in the hard and soft palates, webbed and supernumerary fingers and toes. The numerous forms of neuroses, the diminished birth rate, the congenital weaknesses, which I think are becoming more general among the working classes who use alcohol, whose diseased and deformed children crowd our hospitals and charitable institutions. The increasing number of cases of apoplexy, idiocy and other mental disorders showing the rapid increase of the defective classes, are the fearful annual tribute paid to alcohol. Who can successfully estimate the affect that alcohol has had and is having, directly and indirectly upon the tissues, in producing these unequal mental and physical developments?

While there is a great difference of opinion among medical men in reference to the direct and remote effects of alcohol upon the human organism, there can be no question but that its destructive power is very great and that it is too recklessly and perniciously prescribed.

And there can be no question but that it has been fairly demonstrated that alcohol neither aids digestion, prevents disease, nor prolongs life; that it causes an unnatural flow and precipitation of the pepsin of the gastric juice of the stomach, interfering with the metabolic processes, and coagulates and hardens all the albuminoids of food, thus retarding their solvency and assimilation. That it produces temporary interstitial paralysis of the vasomotor nerves of the digestive organs, which by reflex action, prevents and perverts the proper action of the ferments of the stomach, thus interfering with the digestive and assimilative processes.

Alcohol has a great affinity for water, and when introduced into the system interferes with the normal action of the red corpuscles and robs the blood of its due proportion of oxygen; it has no normal reconstructive power; it also prevents the proper elimination of the carbonaceous and other effete matter from the blood and tissues of the body, thereby encouraging the formation of ptomaines and other deadly microörganisms yet, notwithstanding all this there is no drug in the whole range of the Pharmacopœia that has been used with such reckless inconsistency.

If the above facts are correct, is it not about time that the whole medical profession changes its base of action and opinion in reference to the *modus operandi* of alcohol?

Chassaignac, the great French surgeon, once said that: "America at this moment wields the surgical scepter of the world." If that is so, let us endeavor to so investigate as to arrive at the exact facts, so that we may be able to disseminate the truth in reference to the destructive effect of alcohol among the people.

Let us develop a national literature which shall lead the world in this momentous question; let the medical profession of this country free itself from the old superstitions which have so long controlled it. Let the facts which recent investigations have so clearly demonstrated in reference to alcohol and its painful effects, be known. Let us promulgate these, and carefully guard the altar of scientific truth, that the world may see its light and be guided thereby.

SOME FACTORS IN THE SOLUTION OF THE ALCOHOLIC PROBLEM.

Read in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY J. W. GROSVENOR, M.D.

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An alcoholic problem confronts the people of these United States. Multitudes—perhaps the majority—of our population do not believe this statement. Especially is this true of our foreign-born residents. The vast majority of them have drawn alcohol from the maternal breast and have been educated to believe that alcoholic drinks are the healthiest that exist; they see no alcoholic problem.

The brewer, the distiller, the saloonist can find no alcoholic problem which will restrict their business. The ordinary merchant fails to recognize any alcoholic problem which forbids a reciprocity of business between himself and the vendor of alcoholics. The professional man searches in vain for an alcoholic problem which will offend the consciences of his clients.

The eyes of myriads of our people in looking for this problem are blinded that they see not, and their ears in listening for its goings are stopped that they hear not. If, perchance, a representative of these classes meets the alcoholic problem he is very apt to ignore it, and, like the Pharisee, passes by on the other side.

In spite of the fact that an alcoholic problem is unseen and unacknowledged to a large extent in our country, it *has* an existence and calls loudly for solution. Its existence is recognized by many philanthropists, some political economists, and hosts of our people who have at heart the welfare of our homes and nation. Its recognition as an established fact is growing into larger prominence every year.

This problem will not be rightly solved until its presence is openly acknowledged by a greater number of our framers of national thought, by our foremost scientific minds, by our leading spirits in moral and economic reforms, and by a majority of the middle class of our republic. For the solution of the alcoholic problem a vast amount of teaching must be done in order to establish the mere fact of its exist-

ence. Unless our souls are thoroughly impregnated with a belief in the need of a reform, the voices and hands which we raise in its behalf will be weak and crippled.

What *is* the alcoholic problem? Succinctly stated it is the *right* use of alcohol—its best use for all classes and conditions of people. For the individual it is the use which will give the greatest aid in the development of the soundest physical organism, the keenest and broadest intellect, the purest morality, which will enable a man to make the most and best of himself; in respect to home life it is the use which will produce the sweetest courtesies and the most self-denying love; in regard to society it is the use which will insure strictest fidelity to assumed trusts and the most honorable dealings between man and man; concerning citizenship it is the use from which will emanate the noblest patriotism. This is the problem presented for our solution—one of the largest and most difficult problems before the American people to-day.

The Nature of Alcohol.—Whoever undertakes to solve the alcoholic problem should know and appreciate alcohol's characteristics. In a contest at war he is most likely to win who—*ceteris paribus*—best knows the resources of the enemy. No class of scientists are more fully qualified to tell us what alcohol is and what it does, than the chemists and physiologists. Over and over again, chemists who have studied it in the laboratory and physiologists who have observed its action upon the living being have declared that *alcohol is a poison*. Scarcely an intelligent person can be found who is not ready to acknowledge that opium is a poison. He who will experiment with both opium and alcohol on his own system will discover that in many respects the action of the latter is not very unlike that of the former. Nearly every physician of a few years' practice has seen or known well-authenticated cases of sudden death caused by the ingestion of some form of alcohol. Indeed, the evidence that alcohol is a poison is overwhelming; and yet not infrequently, both in word and in print, this statement is stoutly contradicted by professional men of intelligence. To counteract any belief in a non-poisonous quality of alcohol it should be handled and treated as are other poisonous substances. Every receptacle which contains it should be distinctly lettered *poison*, and pictured with the ominous skull and cross-bones.

Alcohol is an Anesthetic.—Used on the external surface of the body, the part to which it is applied becomes less sensitive to impressions; used internally in large quantities the whole system yields to profound narcosis; the body may then be bruised and pricked with sharp instruments without expressing any signs of sensation.

Alcohol is a Paralyzant.—Under the influence of moderate quantities the senses are appreciably affected; as proved by actual experiment, vision is less acute, hearing is blunted, touch is less sensitive, taste and smell are impaired, muscular power is weakened.

Under the influence of large quantities of alcohol, the taker lies as in a deep sleep, or as almost dead.

The question whether *alcohol is a stimulant or depressant* has been energetically discussed for the last hundred years. A unanimous opinion has not been reached. Probably a diversity of opinion is largely due to a difference of meaning attached to the term stimulant. If a stimulant is that which excites mental processes and increases muscular activity, alcohol without doubt may be called a stimulant. It is not difficult to observe that a person immediately after taking alcohol shows a quickening of thought and of muscular action. The vasomotor nerves have become partially paralyzed, the brain and muscular fibers are supplied with a greater than a normal quantity of blood, and thus activity is increased. Soon, however, the blood becoming impure, ceases properly to nourish the various organs, and brain and muscles perform their functions with abnormal slowness.

The increased activity, as well as the abnormal slowness of movement, has been caused by the paralyzing property of alcohol. In producing stimulation, alcohol acts as a sedative, and thus it should be called. Stimulation is the product of sedation.

Notwithstanding experiment has shown the reasonableness of the view here presented, it is probable that the vast majority of physicians believe the strongest quality of alcohol to be its stimulating power. So long as alcohol is called a stimulant by chemists, physiologists and physicians this will be regarded by the laity as its leading characteristic; it will be used as a *sine qua non* for the promotion of strength. The nature of alcohol as a poison, an anesthetic, a paralyzer, a sedative has a large place as a factor in the solution of the alcoholic problem.

Taken internally, Alcohol has no Usefulness for the Healthy Human Organism.—It furnishes neither material for addition to its tissues nor heat for warming it; it is neither a tissue-forming nor a heat-producing food; it has no power to build up and sustain the physical system. Subjected to arctic cold or tropical heat, to the severest physical strain of the athlete, to the highest mental tension, to hardships on land and sea, man finds in alcohol no genuine aid. This is the teaching of reason, experiment and experience.

The internal Use of Alcohol works a Positive Injury to the Healthy Human Organism.—It vitiates all the solids and fluids of the body. The numerous diseases which are the product of its moderate and excessive ingestion, forcibly testify to the truth of this statement. The nervous, circulatory, digestive, osseous and glandular systems profoundly feel its deleterious influence.

Alcohol as a Medicine.—Since its discovery, alcohol has had a prominent place among remedial agents for the sick. In this rôle it has had its ebb and flow of popularity. Notwithstanding a large majority of physicians recommend it as a valuable medicine, it is my belief that confidence in its remedial virtues is on the wane. The London Temperance Hospital is a positive witness to the fact that all diseases can be as successfully treated and all surgical operations as successfully performed without the use of alcohol as with it. The American Temperance Hospital in Chicago forcibly teaches the same lesson. The long and successful experience of some of our most eminent medical practitioners, both in this country and Great Britain, bears unequivocal testimony to the same truth. With almost the certainty of a mathematical demonstration it has been shown that alcohol has slight, if any, utility as a necessary article of the materia medica. I predict that ere many decades shall have passed it will have gone the innocuous way of the physician's lancet.

The factors thus far mentioned as connected with

the solution of the alcoholic problem relate to the individual. They should awaken and foster a special interest in the practicing physician. As he goes his daily and nightly rounds he comes in contact with individual life, and this alcoholic problem in some form is apt to meet him at every turn. On him, to a large extent, depends its solution. If he believes that it exists and demands serious consideration, so will believe the families that place confidence in him; if he understands the alcoholic problem he can make his patrons understand it; if he has thoroughly studied the nature of alcohol he has the power to inspire in others an interest in its study; if he has no faith in alcohol as a constructor and sustainer of the healthy human organism, his position as a student of physiology gives him abundant opportunity to lead the indifferent and uninstructed into the same faith; if, by research and the test of experience, he has become convinced that alcohol has little or no utility as a medicine, his views will be likely to find expression in the chamber of sickness, in the medical society, in the columns of the medical journal and in every place where they are likely to produce good results; if by a life of total abstention from alcoholic beverages he shows his disbelief in their power to do good to either mind or body, his example will have marked influence on the lives of his associates. The physician who does not hold these attitudes can do no better service for himself and his clients than to study the alcoholic problem anew, stand ready to accept new light on this all-important subject and use his enlarged knowledge for the benefit of his kind.

The physician holds an important relation not only to individuals but also to communities and the nation. He is a citizen as well as a physician and as such has a responsibility to do his share in the solution of the alcoholic problem that meets him in all the walks of life.

Alcohol is an Enemy to the Home.—The American home is the bulwark against anarchy, communism, socialism and all those isms that tend to undermine a respect for law, true liberty and morality. No more potent home-breakers exist than the alcoholized father and mother.

Alcohol is Inimical to the good Order of Society.—It is the forerunner of poverty, crime and immorality. The social cup, the treating glass lead on to social discord and vicious conduct. Alcoholized society is society undermined, disorganized, ruined.

The wide-spread Use of Alcoholic Beverages in a Nation is a Menace to its Integrity and Life.—To a large extent a nation must depend for its stability upon the physical soundness of its citizens. Alcohol has been aptly termed, "the genius of degeneration." Its degenerating influence on the national body may be slow but it is sure. Several generations may pass before its work produces an effect which is glaringly visible. At length, however, the national mind will be invaded; mental processes become weakened and disordered; judgment beclouded and unbalanced; cowardice is substituted for courage; the baser faculties win control; the vision and vagaries of the national intellect, partially alienated, are transmuted into legislative enactments; the execution of law becomes feeble and erratic; the nation is hurried far along on the highroad to ruin; it stands tottering on the brink of despair and ready to plunge into the depths of disaster or destruction.

The Relation of Heredity to Alcoholism.—From the earliest historical periods, heredity has been recognized as a cause of alcoholism. Aristotle declared that a "drunken woman brings forth children like unto herself," and Plutarch declared that "drunkards beget drunkards." All along the historical road may be found abundant testimony to substantiate this truth. The evidence in favor of it is as clear and strong in respect to alcoholism as in respect to insanity. Although many of the students of the alcoholic question may not believe in the direct hereditary transmission of this disease, they acknowledge that a constitutional tendency to it may be hereditarily transmitted. Alcoholized ancestors may transmit to their descendants, not only an irresistible craving for alcohol, but also many defective conditions of mind and body. Through these defective conditions, alcoholic habits may be acquired which have their outcome in seriously degenerated descendants. Thus it is seen that from the view-point of heredity the solution of the alcoholic problem has a large place in its relation to the physical and mental soundness of the race. The alcoholic problem is a racial problem.

Permit me to call your attention to one more factor which relates to a solution of this question. *I refer to the use of alcohol in our public charitable institutions, especially in general and insane hospitals.* The annual bills for alcohol in its varied forms in many of these institutions is so large that they suggest great extravagance and ill-directed use. A large per cent. of insanity is the result of alcoholic drinking. Very many of the inmates of general hospitals are the victims, directly or indirectly, of alcoholic excesses. I fail to see the reasonableness of treating such cases with alcohol. Perhaps it is done on the principle of curing the bite with the hair of the same dog. The superintendent of the London County Asylum, Banstead, Eng., a hospital for the insane, has made this statement: "Since the withdrawal of beer from the dietary the rate of recovery has gone up. During the past year (1893) for example, the recoveries reached 46.97 per cent. . . . These inmates take their food better without the liquor."

If alcohol has little or no genuine usefulness in the treatment of disease, I can see no valid excuse for spending annually in any one of our largest hospitals several thousands of dollars for alcoholic liquors. Such expenditure for the whole country must amount to an immense sum for a single year and for a series of years doubtless mounts up into the millions. To my mind, this is a vast waste for which the taxpayer has good reason to complain.

The factors presented in this paper, as related to the solution of the alcoholic problem, are only a few of the vast number that exist and meet us at every turn of life. They have been massed here without any attempt at special discussion or detail, in order to exhibit the magnitude of this problem which reaches out into almost all avenues of individual and national life.

If science and experience teach that the internal use of alcohol is unnecessary for the healthy human organism, has scarcely any or no utility as a medicine, is a producer or instigator of scores of diseases, lays the foundation for crime and immorality, strikes with a destroying hand the home and the virtues of well-ordered society, threatens the peace, prosperity and permanency of our republic, we, as physicians

and citizens, are called to consider and intelligently act upon the questions whether it shall not be suppressed from our list of medical remedies, banished from our persons and home life as a beverage, and whether by the responsible positions we occupy we are not bound to teach by the wayside and in public the destructive nature of alcohol, and to enforce our views upon the public mind with all the energy at our command.

If, on the other hand, we have some slight belief in the efficacy of alcohol as a tissue-builder or blood warmer, we should advocate its restriction to the narrowest possible limits.

I am confident that we shall not make great advance in the solution of the alcoholic problem until, as a profession, we have earnestly declared to the people again and again, the lessons which during the last few decades have been taught by investigation in the laboratories of the chemist and physiologist and by observation at the bedside of the sick.

A new era will fully dawn upon our nation when alcohol in minimum amount is used as a remedial agent for victims of disease, and as a beverage for the healthy human organism shall cease to exist.

PRACTICAL LIFE INSURANCE EXAMINATIONS.

Read in the Section on State Medicine at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY JOHN L. DAVIS, M.D.

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My justification for asking your attention to a subject that may appear trite and perfectly familiar to you is the fact that while physicians are receiving as fees from insurance companies and coöperative associations about $2,500,000 per annum, they are not in every instance giving a *quid pro quo*. I understand fully and we all agree that members of the AMERICAN MEDICAL ASSOCIATION always give a *quid* much bigger than the *quo;* but it is the doctors who are not of us that I shall describe. My remarks will not apply to the strictly technical part of the examination, for I feel that after fifteen years' work in examining applicants' lungs and hearts and kidneys I have too much yet to learn to warrant my giving you instructions in physical diagnosis. Hence for the sake of avoiding argument I will assume that every man who has a diploma is *ipse facto*, a good diagnostician. I will admit this, though the medical director of every company is chagrined, perhaps daily, to find what manner of report is submitted to his office by doctors who hold diplomas as good as his own; but in the aggregate we may say that examiners do remarkably well and no complaint as a rule is called for. So we will let that pass. That is the part of the subject not to be touched by this paper. But some suggestions will not be out of place as to the practical element in the examination, as to those features which disclose the examiner's business acumen, social tact, "horse sense" and understanding of human nature. As far as my experience goes, it is here that the doctor is possibly more often at fault than in diagnosis. The ideal examiner for an insurance company must not only be competent and skilled in diagnosis, but he must be tactful and approachable, willing to display a sympathetic camaraderie, putting the applicant at his ease and by his manner relieving him of restraint which is inimical to a satisfactory examination; and at the same time he must sincerely appreciate the agent's position; he must do his work skillfully, but at the same time promptly and in a business-like way and by his manner, if not by word, commend the applicant's motive in taking insurance, incidentally, perhaps, speaking well of the company and a good word for the agent. And all this must be honestly done; hypocrisy will not pass; the fraud will be detected. The examiner must honestly and earnestly believe in insurance and in his company, and must fully sympathize with the agent in his difficult task. He can do all of this without sacrificing his dignity as a physician; nay, such sympathetic genuine interest in his fellow-man adds a dignity to the profession which nothing else can do.

I recently attended an underwriters' meeting and one subject under discussion was "The Fool Doctor." I can not understand why I should have been invited, when a fool doctor was discussed, but I was there. And the agents painted a picture of the doings of the fool doctor until I blushed for my profession. What does the fool doctor look like? Well, like any of us most; but it is what he does and says. He stands on the corner and tells people he is going to examine Mr. Crœsus next week for the Jumbo Tontine. Somebody gives a pointer to the agent of the Bonanza Life Company and he quietly has Mr. Crœsus examined this week, and, as insurance men say, the Jumbo Tontine holds the bag and the fool doctor wonders how it happened. But sometimes the fool doctor reaches the applicant before the other company gets him and then the conversation opens up like this: "Ah, Mr. Crœsus, I want to examine you for the Jumbo Tontine, don't ye know. I always feel a little afraid of those big companies and carry my own insurance in the Picayune Promiser which is going to do first-rate some day, and is much cheaper than the Jumbo." And so forth. Mr. Crœsus hesitates, not having been fully and soundly converted and tells the fool that he is pretty busy this morning and will call at the doctor's to-morrow; and to-morrow, you know, never comes; nor does Mr. Crœsus. In many little ways the fool doctor shows his right to the title. He forgets his pen or his bottle or his examination blank even. I have actually known an examiner to forget the examination blank. And he must call again to complete his report. And the interim between the calls! Oh, how it is fraught with dangers from within and without! Mr. Crœsus' wife may get his ear (for conversational purposes I mean); I have noticed the combination of Crœsus and the fool doctor is often completed by that kind of a wife. At all events, through some internal or external cause, Crœsus will change his mind and the other company, or I may say the goblins, "will get him if you don't watch out." All companies aim to secure as examiners, men not only of professional skill and integrity, but of sound judgment and insight into human nature; for these extra professional attainments constitute a most important safeguard for the company. Very different indeed are the relations between the examiner and applicant on the one hand, and the physician and patient on the other. The patient is anxious to fully disclose his symptoms and diseases, present and past, his habits and family tendencies; he will communicate every unfavorable element which his case involves. But when the same man is an applicant for insurance, often the most

minute and searching inquiries are needed to reveal what in the other case would have been eagerly disclosed. This reticence is in most cases explained by failure to appreciate the importance of information sought in the insurance examination. But sometimes, unfortunately, facts are withheld or misstated with the deliberate purpose of deceiving the examiner. There is need, therefore, of the greatest tact and skill in drawing out and properly weighing every feature required for a perfect report. Skill in physical examinations, integrity, good judgment and tact in dealing with men are the qualifications of a first-class examiner. Every appointee should aim to possess these requisites, realizing that a single fact improperly or incompletely set forth in the examination may involve the company in an unwarranted loss of many thousand dollars, or may, on the other hand, cause the rejection of a desirable risk who is rightfully entitled to insurance.

The examiner should at all times be mindful how fully the home office is dependent upon his individual examinations for final decision. And he should feel that in the responsible work of selecting safe risks for the company, the examiner is the direct representative of the medical department; he should realize fully that the duties of examiner and medical director are complimentary and coöperative; and, hence, our mutual relations should always be most cordial and confidential.

The examination should always be made in private. When alone with the examiner the applicant will answer more freely than otherwise on matters unfavorable to himself. Explanations of a private or personal nature should always be treated as confidential, which is impossible when a third person is present. Another reason for this requirement is that it relieves the examiner from the annoyance of outside dictation and interference with the applicant's statements. The examination is a matter strictly between the applicant and the medical representative of the company, and no third person must be permitted to interfere.

In meeting the applicant, the first essential is his identity; if not personally acquainted with him, the examiner must assure himself beyond a doubt that the man he examines is the party whose signature appears on the application. The attempt is sometimes made to substitute a healthy man for the examination which the applicant himself could not pass, owing to bad health. Hence, the need of identification.

A great deal may be learned about the applicant before the physician reaches the strictly physical examination. The examiner should note in the first place his gait, attitude, expression, manner, etc. He will observe whether the eye is bright or dull; the complexion clear and healthy or showing signs of dissipation, disease or premature decay. All of these points will be noted at a single glance by the experienced physician.

The applicant may be unduly nervous, especially if not used to being in a doctor's office. The examiner's manner should be reassuring and calculated to inspire confidence and frankness. The applicant must be at his ease during the examination, so that the pulse and respiration may be tranquil and the answers freely given without embarrassment of any kind.

As preliminary to the detailed examination it is a good plan to question the applicant as to his residence and occupation, and learn whether the surroundings are sanitary or otherwise, whether the employment is healthful or hazardous, etc. Facts may be incidentally obtained in the party's business or domestic arrangements, suggesting the question of so-called "moral hazard." Particulars can be learned as to drinking habits and other vices tending to shorten life. Often specific questions will not elicit information nearly so well as will a frank conversation casually covering the points at issue.

There is perhaps no need of reminding physicians of the disastrous results of excessive drinking. But the practical effects of alcoholism come with such striking force in the death losses of insurance companies that a few words to the examiner on this matter will not be amiss. There is no other topic of inquiry in the examination which calls for as great skill on the examiner's part as does this question. Applicants often are apparently unaware of the amount of alcohol they are ingesting; the most detailed and careful inquiry is therefore needed to get the facts. A person who drinks and inherits the taste for liquor is not safely insurable.

A difficult question is, to what extent can a man drink without shortening his life? It is an undisputable fact, as has been proved by the experience especially of foreign companies, that total abstainers, other things equal, are the most desirable risks. It must be remembered, however, that abstainers who have formerly been hard drinkers and are "reformed" are not first-class risks; with them there remains the damage done the organs by alcohol as well as the possibility of a return to the old habit.

It has been shown by Anstie that when an ounce and a half of alcohol or less is taken in twenty-four hours it is not found in the excretions. If, however, more than this amount is taken, the excess is eliminated as alcohol, showing that whatever may be the effect of an ounce and a half, more than this amount is excessive and can not be appropriated by the tissues. Even a less amount may be dangerous, if occupation or surroundings favor a stronger habit. The form in which alcohol is ingested is an important consideration. The stronger drinks, as whisky and brandy, are usually the more dangerous; this is certainly the case when taken on an empty stomach. Furthermore, the regular drinking of a moderate amount is often not as serious as the occasional ingestion of a greater amount with a period of abstinence following, to be again followed in a few days by another round of free drinking. Examiners should, therefore, clearly state the manner of drinking, whether regular or occasional, as well as the approximate amount and kind of drink used.

Free drinking leads directly to disease of the liver, kidneys and heart inflammation, hypertrophy, fatty degeneration, etc. All organs and tissues are weakened and the free drinker is less able to resist any intercurrent disease which he contracts. He is more liable to accident, to suicide, or other violent death, and in every way is an undesirable risk. These are the dangers beyond the limit indicated. But, undoubtedly, for many men the danger line is below the figures given by Anstie.

The importance of searching inquiry into this habit is evident. No company wants heavy drinkers, whether the habit is regular or only occasional and, as a rule, the less a man drinks the more favorably

is he regarded by insurance companies. Examiners are, therefore, urged to investigate this question most thoroughly in every applicant examined, remembering that among drinkers we will accept only the most moderate, and even these are regarded with disfavor.

A few words on the family history with its bearing upon the risk is next in order; for the character of the risk is affected more or less by the mortality and morbility of the family history. In some cases the applicant in feature and physique bears a striking resemblance to father or mother, sometimes to a more remote relative. Often, however, the resemblance is not clear or appears to be blended. Where there is close physical resemblance we may assume a corresponding similarity in internal organs and tissues, and the inference is reasonable that diseases and tissue changes will affect such persons approximately in the same way. In this assumption we have the basis for the important part which heredity plays in life insurance. Many diseases are recognized as hereditary, though when transmitted they may appear in a form or manifestation different from that experienced by the ancestor. For instance, many authentic cases are recorded illustrating the interchangeability of consumption, cancer and scrofula. In other words, hereditary transmission is not always characterized by the specific germ of the disease, but rather by a tissue weakness or susceptibility manifested by some allied pathologic condition. Diseases recognized as hereditary in the sense described are consumption, cancer, scrofula, syphilis, insanity, alcoholism, epilepsy, gout, rheumatism, diabetes and Bright's disease.

Some of these diseases are so commonly recognized as hereditary that occasionally applicants are on their guard when there is a family taint and will make every effort to conceal such instances in their report, knowing how seriously the true facts would impair the risk. Often, therefore, such innocent terms as "malaria," "typhoid fever," or even "old age" (perhaps suspiciously premature) are reported as causes of death, where the actual cause was consumption or cancer. Great pains are usually taken by the applicant to show that every case of consumption in his family is acquired—not hereditary. Sometimes an assumed ignorance will report "Don't know" as a cause of death, where the facts positively indicate transmissible disease. Experienced examiners are familiar with all such subterfuges, and know that these evasions or indefinite terms are unfortunate for the applicant and are regarded with suspicion by the company. The examiner should, therefore, use every effort to get at the facts in such cases, basing his answer upon a full inquiry into symptoms, clinical history, etc. The same care should be exercised when a member of the family is stated to be in "poor" or "moderate health"; the cause must be clearly indicated. Sometimes an evident effort is made to offset unfavorable features in the family history by attributing marvelous longevity to grandparents and other far-off ancestors.

It may not be necessary to caution examiners against relying too implicitly upon statements made about remote ancestors, unless a reliable family record is at hand. Many persons of middle age can not give trustworthy information about their grandparents.

The points suggested represent the common experience of insurance companies. The examiner should, therefore, first satisfy himself that the history reported is as full and accurate as can be had; then he should state his answers clearly and positively. If the examiner is capable and alert he will not report a death from congestion after a six weeks illness, nor a death from "pneumonia" without cough as a symptom. Though these are ostensibly statements of the applicant, it is the examiner's place to supervise them and not permit statements to be made that are obviously improbable and conflicting.

Before forwarding his report, the examiner should see that every question upon the form is answered. He should remember that this written examination is all the information the medical directors have upon which to base their action. The examiner will understand how difficult this decision sometimes is, if, having dismissed the applicant, he will put himself in the medical director's place, and with only the written examination before him try to decide the case. He will, under the circumstances, often see the need of further particulars to clear up some point at issue. Such supplemental statements are of great value, and are appreciated at the home office.

Apart from the detailed examination, anything in the applicant's appearance or manner or surroundings which impresses the examiner unfavorably should be noted. The amount of insurance desired may be far beyond the limit justified by the man's circumstances or station in life; or the examiner may feel that the party is urged to insure for speculative purposes by designing relatives or persons having no legitimate interest in his insurance. All such matters come within the scope of the report and should be fully stated. A confidential letter may be sent to the department by the examiner at any time and will be duly appreciated.

In rating a risk the examiner should bear in mind that the final decision rests with the home office. His action should be based on the applicant's personal appearance and examination together with his habits, occupation and surroundings. The bearing of his past record and family history should perhaps be left largely to the medical directors, who sum up all the items in the case. The most satisfactory classification is such as is indicated by phrases like these: "Superior, personally;" "Average, except bad surroundings;" "First-class, except for rheumatism;" "Good, aside from drinking habits."

In conclusion, attention may be called to the fact that sometimes the decision in a case made by the home office differs from that anticipated by the local examiner. It should be understood by the examiner that such differences by no means necessarily reflect upon his judgment and character as an examiner. His view is limited to the single case, or at most to a few similar cases; while the judgment of the medical directors at the home office is based upon a large aggregation of cases identical with that submitted. As a diagnostician, the examiner may be perfectly correct, but as a rule the home office with its collated evidence and statistics is in a better position than he, to judge as to how much a man's expectancy may be affected by past or present personal conditions in connection with a given family history. In other words, the examiner deals with the individual; the medical director with the class, making indeed such exceptions as large experience has seemed to warrant.

THE DEPOPULATION OF CIVILIZED NATIONS.

Read by title in the Section on State Medicine, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY H. B. McKLVEEN, M.D.
CHARITON, IOWA.

You see the title I have given to this paper is the depopulation of civilized nations. Probably it would be more proper to put it, the cessation of increase of population; for it is not so much the causes that depopulate, that I wish to speak of, as the causes which hinder the increase of the population,

It seems that the people of all civilized nations have in matters relating to the perpetuation of the species become subject to some influence, which as the nation becomes cultured prevents its increase. They seem to be approaching the same finale that characterizes a certain variety of butterfly which attains the perfect state and then dies.

In this country the subject does not receive the attention it merits, in fact it only attracts the notice of medical men, and then not as a condition which may confront them, but rather as a curiosity.

In France a great deal of attention has been paid to this matter. In 1891 one-fourth of the papers submitted to the Academy of Sciences were upon this subject The result has been that active efforts have been made by legislation to increase the number of births and to protect the lives of those that may be born.

In most European countries reliable statistics exist by which we can determine the ratio between births and deaths, but in the United States we have no very exact figures with which to compare ourselves with other countries.

France in 1890 had over 100,000 more deaths than births.

England, though not so bad, showed a greater mortality than natality.

Germany makes a better showing than any nation of Europe, except Austria. In Germany the births slightly exceed the deaths.

In Austria the natality is 65 per 1,000 of the population and the mortality 49 per 1,000.

In 1880 in the United States there were born 37 per 1,000 of the population, while in 1890 the rate had fallen to 29½ per 1,000.

This condition existing as it does in times of peace, when there is neither famine nor plague to increase the mortality and with every effort made by science to lengthen life, becomes really alarming.

With compulsory vaccination to prevent smallpox, better hygienic conditions in our cities, a greater knowledge of sanitary laws and the advancement of medicine and surgery, the mortality has decreased in all countries. In France, alone, the deaths have in twenty-five years decreased over 100,000 annually.

What is the cause of this falling off in the number of births? We should expect an increase, since science has done so much to rob child-bearing of its horrors.

Demographers differ as to the cause. Among those mentioned are the late age at which the young people are now married. This decreases the fertile period; the obstacles in the way of legal formalities; the financial embarrassment of large families; the exactions of military service; the unequal emigration of adult celibates; the tendency of people to go to the cities to reside; unhygienic modes of living; the common practice of abortion.

In our own country not all of these mentioned causes can be held accountable; for instance, there are very few legal formalities connected with marriage.

Compulsory military service is unknown in our country, but in continental Europe every young man has to serve a certain part of his best days, and it is a decided hindrance to his marrying as soon as he otherwise might.

At the present time, marriages are consummated at a much later age than formerly. This is due to several reasons: the lengthened educational course is one; the young men and women of to-day are just finishing their education at an age at which their parents became father and mother.

Of course education is a good thing for the individual, but our present systems of education seem to be playing sad havoc with the birth rate and this will be more noticeable in the future, because of the fact that education is becoming more general. Another cause might be mentioned: the young men feel the necessity of having something ahead in a pecuniary way, in order that they might begin their married career in a manner commensurate to their former method of living.

We are living in an age of luxury, and things that were considered luxuries in the past are necessities at present.

Bunyan, the author of the immortal "Pilgrim's Progress," said that when he and his wife were married they had neither pot nor spoon betwixt them. How many couples at the present day would marry under such conditions, which up to fifty years ago were common enough?

At the present time, with few avenues to wealth open before him, the young man is very much older by the time he has sufficient laid by on which to marry than were his ancestors.

One of the most potent causes of the decrease in births is the tendency of people to flock to the cities. Children which are an actual source of wealth to the man in the rural districts, become a source of expense to the urban resident. This causes them from necessity to limit their families. I might mention the desire of parents to give their children exceptional educational advantages. This causes them, when only of moderate means, to wish that they have but few children, especially if they are to distribute their favors equitably.

The wealthy are best able to properly raise large families but, as a rule, they are the ones who have the fewest children. The social pleasures which the rich women can enjoy cause them to abhor maternity, because it interferes with their imagined happiness. Among the poor in the cities, children are particularly a great burden, for it is often necessary in order to live, that the wife shall leave home to labor, and this she can not do and raise a family.

1. I might here state that only one-fifth of the women are able to nurse their offspring as nature intended. No wonder that 26 per cent. of the children die in their first year, for no food man can compound is equal to that nature provides. Why this inability to nurse children? In the first place, the waists and breasts of our women are compressed by tight lacing, tight clothing, corsets, stays and all that is necessary to make a fashionable figure. This causes chronic induration of the breasts, and has a tendency to prevent secretion and in many cases abscesses form.

2. The lungs are so compressed as to prevent proper oxygenizing of the blood.

3. The abdominal and pelvic organs are so displaced that digestion is impaired and the pelvic viscera are in a state of passive congestion with all the attendant evils, rendering the woman unable to furnish the proper nourishment for her child.

Women have until very recent years been taught that they should do nothing which compelled them to come in contact with the public. Now all is changed, and we find women engaged in nearly every vocation. What is the result? They take the place formerly occupied by men, at a much reduced salary. The consequence is that thousands of men who did earn good salaries are now filling the ranks of the army of the unemployed. Five thousand clerks, bookkeepers and stenographers were fed daily at the soup kitchens in Chicago during the winter of 1893–94, whose places are now filled by women. Had these men kept their positions they would have married, perhaps had a family of two or three children. The women who engage in these vocations do so at the expense of their domestic education.

I will now mention another cause of reduced natality—a cause that, did it not exist, we should have much less reason to look with alarm upon decreasing natality. I have reference to the common crime of abortion. So prevalent is this practice that I doubt if an audience of laymen of any size can come before a speaker, but that he faces some one who is guilty of this crime.

Charpentier relates an incident of a doctor in France who was indicted for this crime and confessed to having produced over five thousand abortions. Suppose that one-half of these had attained adult life. There would be enough to make a city of 2,500 inhabitants. Again, suppose that some catastrophe should happen that would kill every one of these people. What an appalling disaster this would be! The whole world would hear of it. Pages in the newspapers would be devoted to it. Every one would mourn the loss. But when one man slaughters 5,000 of the innocents, we only know of it as an incident of medical importance.

In France the practice is much more common in proportion to the population than in our own country, due perhaps to the lower moral status of the people. It is estimated that in France alone half a million abortions are annually produced. I have never seen statistics relative to the number in our own country.

Upon what the demographer based his calculations I can not say. The figures may or may not be too great, but we do know that were there no criminal abortions produced, there would be little probability of the race becoming extinct.

I have asked a number of physicians how often they are approached by persons desirous of having them produce abortions. The average was twice a month. Were this true the country over, this would mean that the physicians of the United States were asked 3,120,000 times a year to produce abortions. The same individual may ask twenty different doctors before finding one who will do the work. Millions and millions the world over are annually produced and we hear but very little of it.

I have now spoken of the principal causes of the decrease in the number of births. I might say I have diagnosed the case. Now, what treatment should be employed? For one thing, this crime should be denounced by the clergy. How often have those of you who attend church heard scathing denunciations from the pulpit upon such minor crimes as the use of liquor, tobacco, etc., *ad infinitum*. Did any of you ever hear the crime of abortion mentioned, and yet I doubt if any minister can look down on his congregation when two-thirds of the pews are filled, but that there is some one within hearing of his voice who is guilty of this crime. A clergyman asked a doctor I know why he did not attend church. He replied he was in better company when with the loafers on the street. "How so, doctor?" said the clergyman. "Well," answered the doctor, "when in church I see so many who are guilty of having committed abortion, which is a form of murder, who seem to take such an active part in church work that it seems like a travesty on religion, and so I stay away. When I am with the loafers I am with immoral men, but not murderers."

The doctor may have been too hard on them or else he possessed an intimate knowledge of the community, but such is often the case; those whom you least suspect are most guilty.

It should be a part of the religious and moral training of every young man and woman to be made aware of the heinousness of this crime. Every mother who calls herself a Christian should teach her sons and daughters that it is murder and nothing else. Murder in its worst form, for it is unprovoked and premeditated. Better a thousand times had she who thinks of doing this crime let nature take its course and let her bury herself in obscurity, be she single, until she can again mingle with the world. France has many public maternities where these unfortunate women can go, and they use them too, for one of every eight children born in that country are illegitimate.

A true physician should consider it an insult to be approached by any one desirous of having him produce an abortion. Some doctors in refusing seem to apologize for so doing. It is within the power of the physician to do much toward stopping this practice of abortion, by showing up the criminal phase and the physical dangers.

The newspapers, the great educators of the people, should refuse to advertise for these abortionists who by carefully worded personal notices inform the unfortunate where they can get relief. In one issue of the Chicago papers, I found over a score such notices Although it is against all law, yet no convictions take place worth mentioning and when they do it nearly always savors of blackmail.

The educational methods should be changed, so that the student may receive physical training and hygienic knowledge. You can not have a sound mind in an unsound body. A lack of domestic education leaves the woman unfitted to make a home what a home should be, and much discomfort and unhappiness may result from such ignorance. Girls should be taught that woman's sphere is, first of all, a domestic one; her first duty is to her family and her home. What man would desire a woman who knew nothing of domestic duties?

The tendency of people to flock to the cities is one of the things that work to decrease population and one of the hardest to remedy. Farm life is gradually becoming more attractive and we may hope that the future may change this migration. Thousands in

the cities are merely existing, who have strength and ability to prosper in the country if they would be willing to sacrifice their love for the city's hustle and bustle.

In France every method has been tried to increase the birth rate. A premium paid for each child born; taxes regulated so that the man with a large family would have less to pay; maternities established, but all in vain. Despairing of attaining an increase in birth, they now seek to preserve the lives of those that are born. Laws to preserve the little ones have been passed. It is a misdemeanor punishable by very heavy fines to give a child less than a year old any solid food, save by physician's orders. I doubt if legislation will ever do much to remedy these conditions. We can at best only hope that an evolution may take place, but for the present and immediate future, I think that the theories of Darwin and Herbert Spencer will hold good.

The increase of natality is in inverse proportion to the efforts of the individual to climb the social scale, and the development of a nation in numbers is in inverse proportion to the refinement and social ambition of the individual.

ENTERIC FEVER IN INFANCY.

Read in the Section on Diseases of Children at the Forty-sixth Annual Meeting of the American Medical Association at Baltimore, Md., May 7-10, 1895.

BY WM. B. NOYES, M.D.

NEW YORK.

The subject of typhoid fever in infancy is one which has been much discussed, recently and in former years, but it is brought up again for new study because of the great uncertainty which still exists in the minds of many in regard to its occurrence, the indefiniteness of most of the literature on the subject, and the very great importance which the exact knowledge of typhoid fever must always have in all its different phases.

In medical literature, recent and old, some authorities of high repute speak of having seen scores of cases in early infancy and childhood and consider the disease not uncommon. The other extreme is represented by Northrup, of New York, who is exceedingly skeptical of its occurrence in infancy. His belief is based on his experience in the last twelve years at the New York Foundling Asylum where 1,800 children constantly under observation living inside and outside of the hospital, liable to every possible exposure which New York city can furnish, have never at any time developed a single case in children under 3 years of age.

Dr. O'Dwyer, with twenty years' experience in the same institution, has seen nothing of it. The physicians of the New York Infant Asylum, a smaller but active children's service, have never observed it. The Nursery and Child's Hospital does not record it. The Children's Hospital of Philadelphia, the largest service in the United States, according to the statement of the resident physician, Dr. Page, has never had a case of typhoid fever in early infancy.

With these statements and the negative records of most institutions in this country in regard to the occurrence of typhoid fever at this age, you will realize that it is necessary to study very carefully the following statistics which I have collected from the entire medical literature on the subject, after which a careful discussion may enable us to reach more positive conclusions than have hitherto been possible:

I.—TYPHOID FEVER IN ENGLISH EPIDEMICS.

1. In London epidemics, according to the *British Medical Journal*, 1882, there occurred in 1870–71, 126 deaths under 5 years of age, or 18 per cent. of all cases. In 1880 there occurred fifty-eight deaths under 5 years, or 13 per cent. of all cases. In 1881, eighty-three deaths under 5 years, or 8 per cent of all cases.

2. In an epidemic in Stockport, England, 1890, there occurred 218 cases, 8 of which were under 5 years of age.

3. In Southend, Essex, from January to October, 1890, out of 152 cases, 65 per cent. occurred under 15 years, 13 per cent. under 5 years, including a male infant under 1, nine boys under 5.

4. Murchison reports in 5,911 cases of typhoid fever in the London Fever Hospital fifty-eight cases, thirty-four females, twenty-four males, under 5 years of age.

5. St. Thomas Hospital Reports record from 1878 to 1880, 3 cases under 5 years, out of 124 cases of typhoid fever.

6. St. Bartholomew Hospital Records from 1875–80 report out of 113 cases of typhoid fever 9 under 5, with 1 death.

7. Homerton Fever Hospital Records show an average of 2.4 per cent. of their cases of typhoid fever from birth to 4 years, 11.24 per cent from 5 to 9 years.

8. The Metropolitan Asylums Board, of London, representing nine fever hospitals record from 1871–93, 266 cases of typhoid fever under 5 years, with 33 deaths.

Of cases older they report: From 5 to 10 years, 1,143 cases, mortality 102, or 8.9 per cent.; 10 to 15 years, 2,019 cases, mortality 265, or 13.1 per cent.; 15 to 20 years, 1,955 cases, mortality 346, or 17 per cent.; over 40 years, 338 cases, mortality 96, or 29.3 per cent.

The Northwestern Hospital alone, from 1889 to 1893, had 101 cases of typhoid under 5, with 9 deaths.

II.—EPIDEMICS OF TYPHOID FEVER ON THE CONTINENT.

1. Gassicourt, out of eighty-five cases of typhoid in Hospital Trousseau, Paris, records three cases from 1 to 2 years, eight from 2 to 5 years, thirty-four from 5 to 10, of which fifty-five were mild, twenty-two moderate, eight severe, and four fatal, or 4.6 per cent. (*Rev. des Maladies de L'Enfance*, 1890.)

2. In Berlin, 1878, 623 deaths from typhoid were reported, of which 98 were under 5, 39 from 5 to 10, (Keating, Arch. Pediatrics.)

3. In Heidelberg, from 1861 to 1879, Roth in the *Arch. fur Kinderheilkunde*, 1881, reports eighty-two cases in the Luisenanstalt and Polyclinic under 15, five under 5 (one in the first year, three in the second) thirty cases from 5 to 10. These are epidemic cases.

4. In Gerhardt's *Kinderkrankheiten*, vol. I, page 50, Wolff states that in an epidemic at Erfurt, 23.6 per cent. of all fatal cases occurred in children. From birth to 1 year, 7.5 per cent; 1 to 2 years, 12.7 per cent; 3 to 5, 42 per cent; 6 to 10, 28.2 per cent.

5. In Basel, out of 2,213 fatal cases of typhoid fever, between 1824 and 1873, from birth to 5 years occurred 108 cases; from 6 to 10 years, 85 cases. (Same authority.)

6. Barthez and Rilliet (*Maladies des Enfants*) studied 1,113 cases of typhoid which passed under their observation; of these 90 cases occurred from 2 to 4 years, mortality 25 per cent.; 176 occurred from 5

to 7 years, mortality 26; 349 cases occurred from 8 to 11, mortality 37 deaths; 498 cases occurred from 12 to 15, 68 deaths.

7. Archambault (*Gaz. Med. de Paris*, 1880) out of 165 cases under 14, reports two cases at twenty-one months, nine from 2 to 4 years, seventeen from 4 to 6.

8. Griesinger out of 510 cases in Zurich, between 1850 and 1863, reports 3.3 per cent. between 1 and 9; 20.1 per cent between 10 and 20.

III.—AMERICAN STATISTICS OF TYPHOID EPIDEMICS.

1. Report of Board of Health, Michigan, 1884, records an epidemic of thirty-one cases, all but six under 9.

2. Pennsylvania Board of Health, in 1885, reported an epidemic of 1,071 cases, 220 cases under 10 years, including: 4 infants 1 year old; 14 infants 2 years old; 10 infants 3 years old; 24 infants 4 years old; 27 infants 5 years old; 31 infants 6 years old; 33 infants 7 years old; 42 infants 8 years old; 404 cases from 10 to 20 years, 260 from 20 to 30.

3. In Providence, R. I., in an epidemic in 1883, reported in the *Boston Medical and Surgical Journal*, 1883, out of 200 cases, 15 occurred between the ages of 1 and 5 years; 32 between 6 to 10.

4. In the Windsor, Vt., epidemic reported in the *Medical Record*, 1894, out of 130 cases, 24 occurred from 3 to 10 years; three cases under 3 years.

5. In the Montclair epidemic, 1894, to which I shall again refer, 115 cases, 8 being infants under 3 years of age.

6. In *Boston Medical and Surgical Journal*, 1888, Holyoke reports an outbreak of typhoid in the Home of the Boston Children's Friend Society of fifty children above 6 years, thirty-five were sick with typhoid; of fourteen children from 4 to 6 years, six were attacked; of ten under 4, one was attacked.

These statistics, selected with care from a mass of less reliable reports, absolutely prove that during epidemics, typhoid fever is very common in childhood, and that in the first five years of life it occurs in a regular proportion of cases quite as frequently as one would expect from the special diet and care infants receive. If we have been free to a certain extent from these epidemic cases in America, it simply indicates that we have guarded the children better than they have abroad.

IV.—DOES TYPHOID FEVER OCCUR IN INFANCY EXCEPT IN EPIDEMICS?

In the *Medical Record*, March, 1895, Stowell published an elaborate table of eighty-five cases under 3 years, representing all the available sporadic cases, of which the diagnosis is strictly reliable. Gerhardt gives a series of twenty cases, Henoch thirty-five; Earl, Christopher and all who have written on this subject have reported cases. Some are entirely trustworthy, others not. It is not of very vital importance for our discussion to give a detailed account of these isolated cases. The question is not whether cases of this disease have at rare intervals been observed, but whether in cases always passing before us, especially in the class of intestinal troubles with a continued fever, that appear so frequently in clinics and general practice in the summer, there are not quite often genuine cases of typhoid fever in infants overlooked.

The diagnosis wrongly applied may be malaria, gastro-enteritis, broncho-pneumonia, tuberculosis or meningitis. For this reason a very careful consideration of the symptoms is necessary.

V.—PATHOLOGIC LESIONS.

A study of the ordinary lesions of typhoid fever as it appears in adult life need not detain us. In infancy, all the abdominal viscera will be found more or less congested. The spleen is enlarged and swollen to far beyond its usual size. The entire mucous membrane of the intestine is congested, especially in the Peyer's patches and in the solitary follicles, which increase in size through proliferation of the lymphoid cells, forming what Henoch and Reilliet called "plaques molles." This hyperplasia may be followed by fatty degeneration of the new formed cells, terminating in resolution; or it may develop into what they call "plaques dur," which indicate that an infiltration of the entire follicle and the tissues beneath has taken place. This stage may be followed by exfoliation of superficial epithelial cells, necrosis, ultimate formation of ulcers. This swelling of Peyer's patches occurs earlier in children than in adults and is sufficient to make the patches protrude beyond the mucous membrane in projections which are frequently the seat of little excoriations, which may later develop ulcers and sloughs, as occurred in twenty-nine out of forty-four of Gerhardt's post-mortem examinations. But in infants this simple hyperplasia generally clears up without ulcerations, which Vogel, Friedleben and other authorities claimed never to have seen under 5 years. Henoch found ulcers thirteen times in 23 autopsies out of 239 cases of typhoid fever in young children, and noticed that they were generally small, shallow, occupying a part instead of the entire Peyer's patch. All this process inevitably causes the mesenteric nodes to swell as in lymphatic infections in other parts of the body. The swelling is not a condition peculiar to typhoid fever. But it is more marked than in almost any other intestinal trouble.

The pathologic changes in the infantile cases, while distinct, are much less severe than in adults. It is a very interesting fact that in a series of animal inoculations with typhoid bacilli by Santerelli (*Annals de L'Institute Pasteur*, 1892-1894) the changes in the intestine and other viscera were almost identical with those we have just described in children. These experiments consisted of a series of inoculations of rabbits, guinea pigs, white mice and monkeys with pure cultures of the Eberth bacillus, and were followed by a second series of experiments of inoculations with sterilized filtered products of the Eberth bacillus. The results were similar in the two cases. Swollen hyperemic spleen, congested intestine, diarrheal intestinal contents, infiltrated and congested Peyer's patches, red and hypertrophied solitary follicles. Hardened microscopic sections of the intestine showed a change in the epithelial lining, especially, and detachment of masses of epithelial cells together, such as occurs in a poisoning by arsenic or other corrosive drugs. Enormous infiltration of Peyer's patches occurred, abundant accumulation of lymphoid cells in and around the follicles and invading the submucous spaces. This change was not a simple hypertrophy of lymphatic plaques, but a condition just short of a beginning purulent infiltration. No typhoid bacilli could be found in these Peyer's patches in the animal, but enormous numbers were seen in the adjacent lymphatic glands and in the

connective tissue of the mesentery. From these experiments, Santerelli comes to the conclusion that typhoid fever produced in animals is by preference an infection of the lymphatic system, and the toxin produced by the Eberth bacillus causes the anatomic lesions. These changes occur in all mucous surfaces and we should expect to find in both animals and in man, lesions in the mucous membrane of the mouth, larynx, bronchi and stomach with resulting symptoms, which occurs very frequently. Typhoid fever can no more truly be called a disease of the intestine than smallpox of the skin, though both have their characteristic lesions in those places.

V.—DIAGNOSTIC SYMPTOMS.

The symptoms in adult life are familiar. The following symptoms may be regarded as characteristic of the cases in infancy:

1. Any long-continued fever that will not yield to appropriate doses of quinin should suggest typhoid, especially if of gradual onset, high in the evening, and when no existing condition of the throat, lungs or bowels offers an explanation. It is more suggestive if remaining continuously high for several days, increasing a little each day for three or four days, yielding after several days of observation some resemblance to a typhoid chart. And if the continuous high fever is well borne by the child, as Jacobi first noticed, with so little prostration perhaps that the child will play around, it is still more suggestive of typhoid fever.

2. The second symptom is gastro-intestinal disorder, especially when a decided tendency to constipation is present; putrid stools, of an especially offensive character and odor, if there is diarrhea. These, when only seen on the diaper, may not look very different from the green spinach stools that occur in other diarrheas, because the fluid is soaked up on the napkin. If seen in a vessel, the thin, semi-fluid character, greenish-yellow particles, and all the characteristics of a typical peasoup stool are present. If there is trouble with insufficient digestion of milk, the lumps of undigested casein or other food will somewhat change the appearance. The lack of acute symptoms of an intestinal nature is more characteristic of typhoid than are violent symptoms.

Henoch noted normal movements in 26 out of 233 cases, absolute constipation in 23, and in 184 cases, first, constipation, succeeded by diarrhea about the end of the first week. Vomiting may or may not occur. Loss of appetite is present from the beginning. A tongue coated with yellowish or brownish-white, or red at the tip and sides, sometimes moist, generally dry, will be noticed. It may be so heavily coated and the entire mouth so affected that a condition resembling aphthous stomatitis may be present, which in one case in the Montclair epidemic first led the family to call in a physician.

But the condition of sordes is far less frequent in infants than in adults. The tongue may vary from day to day, the excessive dryness of the tongue, with foul odor, the coating of the lips and gums, and rhagades is a later condition, keeping pace with the advance of somnolence and severe nervous symptoms.

3. In addition to the fever and intestinal symptoms, an examination of the skin may yield the lenticular rose spots familiar in ordinary typhoid. These may come early or late, or in two or three crops, and are to be expected in most cases in children. Stowell found them in 66 per cent. of his cases. Cadet De Gassicourt in the same proportion. Earl in all his cases but three. Henoch in nearly all. Ashby in thirty-nine cases out of fifty, or 78 per cent. Roth in thirty-seven cases found them present, in forty-three absent.

4. Symptoms of headache frequently occur, which a baby will indicate by rubbing or picking at its head, nose or ears, or burrowing its head back in the pillows, but not by active cerebral symptoms, which would characterize meningitis. As the disease goes on, these head symptoms will frequently increase.

5. Enlarged spleen is very important when found, but not always to be accurately demonstrated in a young child, especially if tympanitis is present. A painful spleen is a more important point. The spleen ought to be felt below the border of the ribs to be pronounced enlarged, percussion not being a satisfactory test. According to Eustace Smith, it begins to enlarge by the sixth or seventh day and is soft and tender, the change being simply hyperemia, not a production of new tissue.

6. Tympanitis is sometimes excessive, but in most recorded cases moderate. This swelling is due to the accumulation of gas through decomposition of food and inability of the bowels to expel the gaseous contents in consequence of loss of nerve power or local injury from ulceration. The more ulceration the more distension.

7. Bronchitis seems to be as regular a symptom as in measles, agreeing with the pathologic changes, redness and swelling of the bronchial tubes generally found, but the breathing is, later, too superficial to make râles. It has been demonstrated that the bronchial mucous membrane excretes the Eberth bacilli and its products, or is at least irritated by it. The younger and sicker the children, the less the cough, as the sensibility of the mucous membrane is so blunted that mucous accumulates in the posterior and lower parts of the lung, diminishing resonance but causing no new real pneumonic dullness. Pneumonia in these cases is rare; Roth in eighty-four cases having four; Henoch very few.

8. The author has seen angina twice, and finds that Henoch, Eustace Smith and Parrot mention its occurrence in infants. In 6,500 cases of typhoid fever in St. Petersburg, Ouskow notes that in 5 per cent. of the cases there was marked redness or ulceration of tonsils. Gassicourt states that in the Paris epidemics, 1865 and 1882, sore throat was very common, but in other epidemics, 1876 for instance, it was rare. In the cases in children the occurrence of sore throat when found will generally confuse rather than help the diagnosis.

9. Epistaxis, according to Keating and others, is as rare in children as it is common in adults. I find it occasionally reported. Hemorrhage from the bowels seems to be rare in childhood and infancy.

10. Neither in children nor adults can the Eberth bacillus be demonstrated in the stools until the tenth to the twentieth day (Chantemesse, Santerelli;) it is doubtful whether reliable bacteriologists have as yet succeeded in demonstrating this in the stools in infants. A number of excellent authorities have never been able to do this even in adults. Though it has been claimed both in infants and adults, more recent methods make it doubtful whether older observers may not have at times con-

fused the bacillus coli communis with Eberth's bacillus. The stools will, from the outset, be swarming with all sorts of bacteria, especially the bacillus coli communis. It seems to be true that as the typhoid fever progresses, these ordinarily innocuous bacilli assume a more virulent character and multiply enormously, but if the Eberth bacilli can not be found in the stools in children, they frequently can be demonstrated in the lymphatic tissues and spleen. In the same way, in the animal inoculation experiments of Santerelli, the stools never seem to contain the Eberth bacillus, while the spleen and the lymphatic system have numbers.

11. The study of the blood in typhoid fever may yield some results of value. It will certainly exclude malaria. I note results reported by Loisan, Simonin and Arnaud, of examination of blood from the finger in 241 cultures made from 65 adult typhoid patients. In a few cases the Eberth bacillus was found alone or associated with staphylococci. In forty-five cases, staphylococci alone were found. (*Rev. de Med.*, April, 1893.) But the Eberth bacillus is not a regular blood parasite, being in all cases found much more abundantly in other parts of the body. These authors have also pursued similar investigations in fresh urine and in the buccal secretions, finding Eberth bacilli in a few cases.

12. There are not commonly marked kidney symptoms, though transient albuminuria in the second week or after the end of the fever may occur.

13. Relapses are infrequent, but at times occur.

14. Ehrlich's test, which is yielded only by typhoid miliary tuberculosis, septicemia and cancerous cachexia may assist in the diagnosis.

COURSE.

The disease seems to appear in three forms; an abortive type of short duration, a type resembling ordinary adult typhoid lasting about three weeks, and a malignant or prolonged form. These bear to one another about the same relation as varioloid, ordinary variola and malignant variola in its more fatal form. The cause of these variations may be the anatomic difference in the extent of the lesions, *i. e.*, whether there is simple congestion, or some considerable infiltration of new cells, or ulcerations varying in size, depth or number. But going further than these gross changes, the occurrence of the Eberth bacillus alone, or its occurrence together with other pathogenic microbes and their ptomaine products, may be the more important condition which determines in which of these three forms the disease may appear. In other words, not how extensive is the change in the coats of the intestines, but how much actual poisoning is taking place? And if the lymphatic theory of the disease is true, the intestinal changes are merely the result of the severity of the disease, not the cause.

The convalescence in children is, as a rule, quicker and less complicated. It is evident from the different series of cases of typhoid in childhood that autopsies are not very abundant. Stowell in his list of eighty-five reliable cases records but twenty-four autopsies. Hoelscher reporting 2,000 typhoid autopsies in the *Munchner Med. Wochenschrift*, January, 1891, reports but eight under 10 years, two being babies of two and nine months respectively. Even in epidemics affecting many children, very few deaths occur. This seems to me to indicate that, as a rule, typhoid is a much milder disease in childhood than in adult life, as many infants may pass through it with less severe and distinct symptoms than adults present.

Out of 265 cases of typhoid fever treated in the Manchester Hospital for sick children, Ashby noted a frequent tendency to an abortive or two weeks' course. While from 2 to 12, the mortality was 10 per cent., he found as a rule, that the children were rarely acutely ill. Though indicating their disease with rose spots, remittent temperature, rounded abdomen and other symptoms, they would frequently be playing around the room and show little prostration.

Jurgëson, in the Transactions of the Sydenham Society, makes a study of eighty-seven cases of abortive typhoid, sixteen terminating from fourth to seventh day, nineteen from eighth to tenth, twenty-four from eleventh to thirteenth, twenty-eight from fourteenth to sixteenth. He holds that if the pyrexial state lasts longer than the twenty-sixth day it is probably due to a progressive ulcerative enteritis. Henoch, out of 190 cases in which he could calculate from the beginning with some degree of certainty, found 11 cases that lasted from seven to nine days, 11 cases ten days, 17 cases eleven days, 8 cases twelve days, 45 cases thirteen to fifteen days, 15 cases sixteen to seventeen days, 25 cases eighteen to nineteen days, 39 cases twenty to twenty-three days, 14 cases twenty-four to thirty days, 1 case thirty-five days.

Gerhardt regards it absolutely demonstrated that these abortive cases are frequent, indicating a light and incomplete working of the typhoid fever on the infant organism. He holds that it is characterized by some degree of suddenness in the onset, at times beginning even with a chill. And this, with the rapid increase of the temperature, seems to portend something of a dangerous nature. The spleen swells early, roseola comes early, and the abdomen is usually protruded and sensitive. The fever may drop rapidly and the child soon become convalescent.

Reilliet and Barthez in *Maladies des Enfants*, in 837 of their cases of typhoid in young children which recovered, find a longer duration; 47 lasting from eleven to fourteen days, 298 lasting from fifteen to twenty-one days, 317 lasting from twenty-two to thirty-one days, 133 lasting from thirty-two to forty-five days.

In the 143 fatal cases which they report, 4 lasted five days, 6 lasted two days, 33 lasted eight to fourteen days, 40 lasted from twenty-two to thirty-two days, 18 lasted from thirty-two to forty-five days, 12 longer.

Yet the diagnosis of these abortive cases must inevitably and at all times be difficult, from the insidious onset and irregular character of all the symptoms, and for awhile, at least, if there is diarrhea, a diagnosis of gastro-enteritis will adequately explain all symptoms; if there be constipation, or merely occasional movements of altered or putrid stools, a diagnosis of ptomaine poisoning from some undigested fermenting substance in the intestines will also account for all the symptoms. And this is not really a false diagnosis. It merely does not state what is the bacterial agent that causes this ptomaine poisoning.

To illustrate this, I will give a history of a case of my own already published. (*Medical Record*, July, 1894):

An infant aged eleven months was brought to me (had been staying for a ten days' visit in Montclair, N. J., where he had been weaned and fed on unsterilized cow's milk diluted with barley water. On his return to New York he was fretful, restless and had a slight temperature of 102 degrees, attributed by his mother to cutting teeth, but had nothing else characteristic in his condition. Slight bowel trouble with colic. For two days he seemed to improve a little, though still with a slight fever; on the third day the temperature was 102.6 degrees, A.M; 103.8 degrees, P.M, and for the first time he appeared very sick. Moderate diarrhea with colicky pains, coated tongue, occasional vomiting, negative chest signs. Diagnosis; gastro-enteritis. On the fifth and sixth days the temperature was 102. 6 A.M., and 104 P.M. Frequent stools of foul odor, tongue coated white, with red tip and sides. Lungs gave only physical signs of bronchitis. Great fretfulness. Hands brought frequently to head, as if suffering great pain. There were no other definite symptoms.

After another day of slight improvement the child was taken back from the city to Montclair. During the two weeks which had elapsed since he had left Montclair, about fifty cases of typhoid fever had developed, and this time it was publicly recognized that the origin of every one of these cases was due to one cause alone; the polluted milk served to the families in all cases by one dairyman, who had himself had two cases of typhoid in his family one month before, and had infected his well and washed the cans and bottles, if not watered his milk, with the infected water. The baby had fed for ten days on this milk. The combination of symptoms which the child had developed, of high and continued fever during the past week, the tongue with clean margin, the character of the stools, the absence of other symptoms, all suggested a diagnosis of typhoid fever. On the eighth day temperature was 104, pulse 160, respiration 25, stools four. Rose spots appeared on the abdomen very distinct, disappearing on pressure.

A second case of typhoid, the nurse of the baby, was detected at this time. She had used the same infected milk. A third case of an aunt of the baby appeared a day after, and other cases in the neighborhood and milk route to the number of 150 occurred.

From this time the case followed a fairly typical course, with exceptionally severe nervous symptoms. Death in fourth week from exhaustion.

I failed to make a diagnosis of this case, until confirmed by the epidemic, and yet it seemed to me that this history of the early symptoms has something characteristic in it which will help in making diagnoses, in an abortive case that goes no further than the first or second week.

The later history in this case followed a course which I find not at all uncommon in recorded cases of typhoid in infancy, characterized by certain symptoms which simulate meningitis. At the beginning of the third week, following a little gastric irritation, vomiting and general irritability increased, the temperature rose 4 degrees. There developed a stiffness of the neck and back which reached, after a time, a condition of opisthotonos. Incoördination and continued movement of the eyeballs, great hypersensitiveness to sound, light and touch especially in the head. Irregular and at times convulsive movements especially marked in the left arm and leg. Continued twitching of the fingers, a peculiar cry, a rapid, feeble and irregular pulse, 160 to 180, rapid respiration. This seemed almost certainly an acute meningitis. Careful examination of the case, and consultation with one of the most reliable authorities on children's diseases in New York, made it seem probable that this was not an acute meningitis: 1, fontanelle was not elevated; 2, the child was bright enough to take notice of its surroundings; 3, no tache-cerebral; 4, no boat-shaped abdomen; 5, no expulsive vomiting; 5, photophobia, hypersensitiveness to sound, were not sufficient. The entire condition, acute as it seemed, was judged to indicate a passive congestion of the brain caused by the weak heart, and an attempt was made to remedy this condition by heart stimulation which proved successful after a few hours, there being no return of those cerebral symptoms during the remaining days of the case.

This history suggests cases of Henoch with tremor, and stiffness of the extremities with frequent jerking or twitching, which showed no brain lesion at the autopsy. Also one where there was contracture of both legs and right arm and continued grinding of teeth. Autopsy with only slight changes in the brain; also one of a little girl who showed distinct stiffness of the neck, later, actual opisthotonos and marked contracture of the neck, but on autopsy showed no brain lesion. Another case in the Montclair epidemic of Brown, which I reported with other cases in the *Medical Record*, 1894, showed marked nervous symptoms, great restlessness, tossing of head from side to side, rigidity of muscles of neck, opisthotonos, almost complete blindness for five days, strabismus at times, hydrocephalic cry, complete recovery after twenty-eight days.

In Gerhardt's *Kinderkrankheiten*, Soltmann speaks of this condition. After intestinal symptoms have almost entirely disappeared, symptoms indicating motor irritation, such as twitching, contractures, light convulsive symptoms, later genuine convulsions, succeeded by stupor as death approaches; even aphasia and paralysis have been noted. Autopsy in these cases excludes meningitis, as well as encephalitis or neuritis. The observers agree in considering the actual cause to be anemia or a diseased condition of the blood, or else excessive weakness in its circulation.

Simon (*Gaz. des Hopitaux*, 1886,) thinks that the congestion always present in spleen, lungs and other organs in these cases of typhoid is always more or less present in the brain, cord and meninges, and he thinks that edema of the brain is the chief cause.

Reilliet and Barthez (*Maladies des Enfants*) refer to a case at fourteen months, with convulsions, preceded by general irritability, agitation, strabismus, contracture of the neck and limbs, a condition which lasted three days. Autopsy indicated sero-bloody effusion in and under the arachnoid. Of their 143 fatal cases, 5 showed thick serous exudate, adherence of membranes, softened brain substance, or, in other words, were genuine meningitis. In nearly all cases of this nature on record, however, simple hyperemia is all that the autopsies develop. These cases all belong to the third or malignant type. The condition is more than a simple change in the circulation or in the character of the blood. It means a more or less absolute overwhelming of the nerve centers by a poison, whether this be the product of the Eberth bacillus or other bacteria.

There are a large number of cases of typhoid in infancy reported from time to time, with inconclusive clinical histories, which are very definite on the subject of the changes in the intestine found on autopsy, which are called "undoubted typhoid lesions," because they yield swollen and ulcerated Peyer's patches, enlarged mesentery, lymph nodes and other similar changes. Are these lesions always peculiar to typhoid fever, or do they occur in other intestinal diseases? Northrup exhibited to the New York Academy of Medicine, an intestine showing all these changes coming from a child sick for only a few hours with some acute trouble, positively not typhoid fever. He asserts that he has frequently met with this condi-

tion in autopsies. Dr. Seibert agrees with him. He explains, and I think justly, many of the so-called typhoid lesions in this way. It is desirable that a very careful consideration of pseudo-typhoid intestinal lesions be made, for it brings up a condition which is not recognized by our existing classifications of intestinal diseases. It is not impossible that the name, enteric fever, if it does not include more than one distinct disease, may possibly be a disease of more than one cause. That is to say, beside the cases undoubtedly caused by the Eberth bacillus, there may be other elements at work, whether bacillus coli communis, or the bacteria connected with milk infection which produce an analogous condition. Whether it will, at a later day, become possible to clearly distinguish these divisions is impossible to say.

The later stages of typhoid fever after the formation of ulcers when they exist, are essentially a septicemic condition from the poisoning by various bacteria and their ptomaine products, but more especially by streptococci. It is certain that, as the disease progresses, the Eberth bacillus becomes less numerous and the streptococci and staphylococci more numerous. The picture of the disease, then, is indistinguishable from the condition so common in severe, long-continued gastro-enteritis, or milk infections which we observe in summer.

Vincent, in the *Annales de l'Institute Pasteur*, 1893, studies this later and secondary condition of infection by a combination of Eberth bacilli and streptococci. In the bacteriologic examinations from the spleen and other organs, in thirty-one autopsies of typhoid cases he found six times streptococci associated with typhoid bacilli. He regards the typhoid patients peculiarly exposed to streptococci infection, since the system in a great measure has lost its resisting power, and only an angina, parotitis, otitis, or some other source of pus is needed to start this double infection. Even the saliva contains numerous streptococci, and ulcers in the intestine may permit absorption. Furunculosis is common.

He examined forty-one abscesses occurring in typhoid cases, and in thirty-two he found staphylococci, pyogenes aureus or albus, and found that these cases happened to recover. In eight cases he found the Eberth bacilli also, five of which cases died. He claims from his test that typhoid bacilli and streptococci, combined, cause a more virulent poisoning and thus a special danger to the patient. In a fatal case of typhoid fever with rose spots and clear history, on autopsy he found very slight lesions in Peyer's patches and intestinal follicles, spleen not much swollen, and in the different organs typhoid bacilli and streptococci.

In a series of animal inoculations he found that injection of the Eberth bacilli cultures, alone, was followed by an active phagocytosis, but injection of Eberth bacilli and streptococci together was followed by no phagocytosis, the animal eventually succumbing to this double infection. This, though only a limited work, opens up a new field of investigation in typhoid fever, and a possible explanation of its characteristic course and exceptional features.

Our present state of knowledge will perhaps enable us to decide that these aborted and short cases, with their early symptoms as described, are more purely the result of simple infection by the Eberth bacillus, while the later course, in common with the condition occurring after gastro-enteritis or milk infection, may become a simple streptococci infection or a septicemic condition.

This conclusion is simply analogous to conditions present in other diseases.

The severity of an attack of diphtheria varies largely in proportion to the extent the infection by the Löffler bacilli is complicated by streptococci.

In scarlet fever the same is true, and in tuberculosis of the lung, as Prudden has so forcibly demonstrated, the lesions and symptoms vary according to the complication of tubercle bacilli with streptococci.

In conclusion, we would once more emphasize that typhoid fever in early infancy in a typical form is rare in this country, though not uncommon abroad. It is in a mild or abortive form that we must look for it here, if we wish to separate it from other intestinal or meningeal diseases that may appear.

And, lastly, when we have a case which is severe and prolonged, we may see in it not the result of the simple infection by the typhoid fever bacilli, but a complication by other pathogenic bacteria.

162 W. 73d Street.

TYPHOID FEVER IN CHILDREN.

Read in the Section on Diseases of Children, at the Forty-sixth Annual Meeting of the American Medical Association, at Baltimore, Md., May 7-10, 1895.

BY JOHN ELIOT WOODBRIDGE, M.D.

YOUNGSTOWN, OHIO.

Typhoid fever is the same disease, is produced by the same causes and is governed by the same laws, at whatever time of life it may occur, from earliest infancy to the frailest anility; modified as it may be, by age, by organic development, by concurrent affections, or by extrinsic causes, and probably by the quantity of poison ingested. In the child as in the adult, it is caused by the same morbific influence, which can be neutralized by the same antidotes. In either instance the patient should be regarded and treated simply as the container of the specific poison.

It follows, that notwithstanding the minor modifications which the character of the disease may undergo, on account of age or other causes, that it is amenable to practically the same curative treatment in infancy as in adult life.

I must, therefore, make the same declaration here that I have made in every medical society before which I have discussed typhoid fever since 1880, viz., that every case can be aborted and that death is a wholly unnecessary consequence of the disease; and farther, that these results are attainable by a treatment so mild and gentle that, should the newborn babe be given the dose intended for a robust manhood, no harm would result; or should the child, overfond of its medicine, take at once the portion intended for fifty doses, it need cause no anxiety.

Yet, symptomatically treated, typhoid fever is one of the most serious affections of infancy and early child-life; and in the most alarming forms of the disease, in which the fever rises rapidly to an excessive height and the nervous symptoms point to some grave cerebral lesion, the true character of the ailment is rarely recognized in time to benefit the patient. Indeed, in a very large majority of these cases a correct diagnosis is never made. Therefore, while treating of typhoid fever in the adult, my pleading has always been for an *early* diagnosis. In discussing typhoid fever in children, the burden of my plea must be for a *correct* diagnosis; since the disease in babyhood is so frequently overlooked.

While Murchison and other eminent authorities have recognized and acknowledged the possibility of the occurrence of typhoid fever in earliest infancy, and even during utero-gestation, yet neither the best text-books, the teachers in the medical colleges, nor the general practitioner have realized how frequently the disease occurs in desperate forms during early childhood.

Reynolds' "System of Medicine" devotes more than seventy-five pages to typhoid fever and does not mention the disease in children in the whole article. Pepper's "System of Medicine," in five large volumes, justly praised wherever the English language is spoken, yields less than two dozen lines out of more than one hundred pages on typhoid fever to the disease in children. Professor Osler, whose "Principles and Practice of Medicine," is perhaps more largely quoted than any other work on the subject, disposes of typhoid fever in children in less than one dozen lines, and this is the author who said: "Cases (of typhoid fever) coming on with severe headache, photophobia, delirium, twitching of the muscles and retraction of the head are almost invariably regarded as cerebro-spinal meningitis." And again: "I have thrice performed autopsies on cases of this kind, in which no suspicion of typhoid fever had been present; the intense cerebro-spinal manifestations having dominated the scene. . . . Cerebro-spinal meningitis is, however, a rare disease; typhoid fever a very common one, and the onset with severe nervous symptoms, is by no means infrequent. Fully one half of the cases of the so-called brain fever belong to this category."

But while medical literature has recognized the possible predominance of the nervous symptoms of typhoid fever in the adult, it has failed to give due warning of the frequency with which these symptoms occur as the most prominent manifestations of the disease in early childhood, an omission which has been responsible for many errors in diagnosis and treatment.

In the first number of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for this year, a distinguished professor of the diseases of children, says that: "It has been my good or ill fortune to see during the past ten years, a number of cases in children under the age of 2 years, which presented mild intestinal disturbance, no marked tenderness over the bowels, a very high temperature, and where the apparent cerebral complications, delirium and stupor being prominent symptoms, were the apparent cause of death. In these cases, in the death certificate, the cause of death was usually given as congestive fever or meningitis. Two of these cases occurring within the past year, in both of which the post-mortem examinations revealed a pronounced error of diagnosis, has emphasized in my mind the thought that typhoid fever exists more frequently in early child-life and in a serious form than is generally suspected. I present the following case:

"A little girl of eighteen months, the child of a very prominent physician, was taken sick early in May, with marked intestinal disturbances; the evacuations from the bowels were frequent and copious, accompanied by mucus and blood. The temperature ranged from 102 to 104, and on one occasion reached 105 degrees. There seemed to be a history of acute indigestion. The usual treatment was applied in this direction, and the temperature was controlled by cooling baths. Flushing of the colon with medicated warm water was applied, followed by starch water injections containing a few drops of laudanum, for the purpose of calming and reducing the frequency of the operations which interfered with sleep. During the early part of the attack, the child, though having frequent operations, was noticed to be calm and gave no evidence of pain. Not until the fourth day, however, was marked obtundity observed and the staring appearance of the eyes, together with the indifference to surroundings, impressed me with the fact that there was a cerebral complication. The course of the treatment was continued and the supposed cerebral complication became more pronounced. Inability to distinguish light or sound, and a crossing of the eyes, apparently justifying a diagnosis of meningitis. The child died about the tenth day. Post-mortem examination developed the absence of meningeal inflammation and the presence of ulcerations of the glands of Peyer, showing us, the physicians in attendance, how little we knew of the cause of death."

The author adds: "The indications for treatment were the same. A recognition of the disease in advance would probably have made no difference."

I have quoted thus largely from this paper because it is really a valuable contribution to medical literature, and I honor the learned author for giving less enlightened members of the profession the benefit of the many sad experiences which have finally opened *his* eyes to the fact that he has been stupidly floundering in his differentiation of diseases, albeit he has yet to learn of his greater deficiency and gross culpability in the treatment of typhoid fever. I forego all criticism on the long years and the number of pronounced errors of diagnosis which were required to implant in his mind a just conception of the vast number of children who must die annually of typhoid fever, after having been treated by the average practitioner for acute indigestion and later for meningitis, and finally are buried under a false death certificate. If this article, by one of the world's most distinguished professors and medical editors, truly represents the practice of the class to which he belongs, it paints a sad picture of the little victims of typhoid fever who were so unfortunate as to have come under their skillful care. It presents to our view what costly mistakes these illustrious gentlemen make, and yet the author eliminates but one or two of the diseases with which, in infancy and early childhood, typhoid fever is so often confounded.

With our present knowledge of the causes which produce typhoid fever, and the susceptibility of young children to their influence, taken in connection with the exceedingly limited number of cases of the disease, which are reported to the various health departments in our cities, where the disease prevails, it must be evident that the eminent writer of the paper quoted is not the only physician who should have had the fact emphasized in his mind "that typhoid fever exists more frequently in early child-life and in a serious form than is generally suspected."

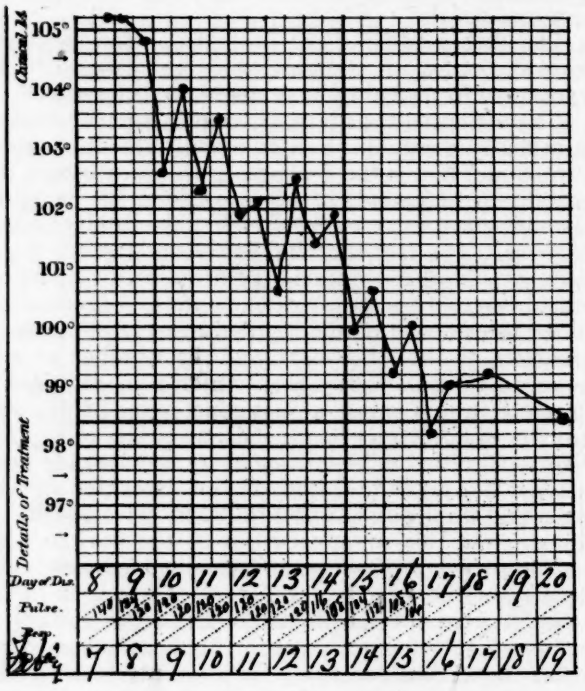
I have, in consultation, seen typhoid fever in young children mistaken for malarial fever, pneumonia, cholera-infantum, teething and even for worms, in addition to meningitis and acute indigestion.

The diagnosis of typhoid fever in children as in adults, should be made by reasoning by exclusion, and if thus the disease can not be eliminated from

the patient's possible ailments, the case should be treated as typhoid fever; because no other disease is so insidious in its character; because no other disease is so amenable to treatment in its earlier stages and so intractable after its anatomic lesions have reached a certain stage; because it is so often impossible to make a positive diagnosis in time to save the patient's life; and, finally, because the best treatment we yet know for typhoid fever not only fulfills both of the requirements of Hippocrates—it is curative, it is harmless in health or in any pathologic condition at all resembling the disease for which it is instituted.

I learned the importance of making a correct diagnosis in typhoid fever many years ago, and in 1881 I was taught a lesson on the management of the disease in children which I shall never forget.

Little Gracie Wick, aged three years and ten months, was taken sick on December 14. Her temperature on my first visit was 105 degrees. In fourteen days she died of typhoid fever. A few weeks later her younger



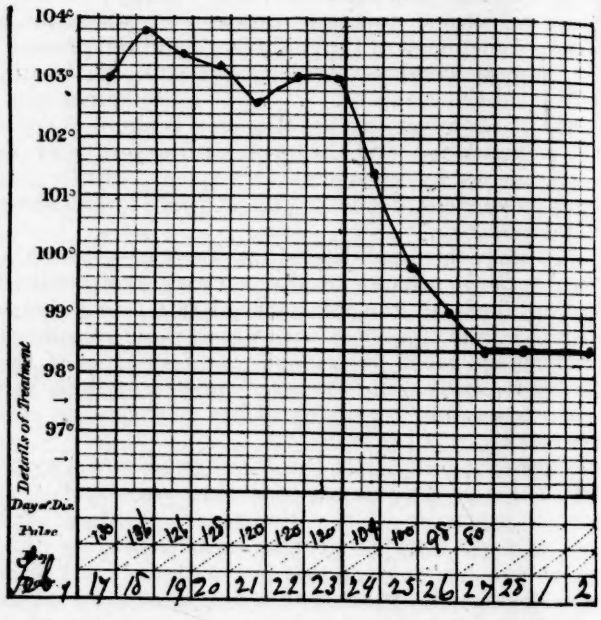
Annie W., age 3 years; date of admission, Feb. 7, 1895.

sister Emily, aged two years and ten months, was attacked by the disease, which ran a parallel course and ended in death, again on the fourteenth day. Both children presented abdominal symptoms. In both, the nervous symptoms predominated. Both had opisthotonos, and both died the victims of almost criminal stupidity on my part. They were my last two fatal cases of typhoid fever and to-day should I be called as promptly as I was then, they would have been in no danger of dying.

Looking back to those gloomy days, I can not realize why I let those children die, for I knew well enough how to treat typhoid fever in adults even then. I made a very inadequate effort to assuage the pangs of conscience, by calling two of the oldest and ablest physicians of the city in consultation, after the time had passed when counsel could have been of any avail.

As a marked contrast to the sad picture portrayed by the death of these little ones, my last two fatal cases, I wish to present the clinical charts of a few of the cases of typhoid fever I have treated during the intervening years and relate the annals that have been kept of them, and as an addendum give the records of a few cases treated by other physicians, by that which, for want of a better name, I have designated antiseptic medicine, for it is antiseptic medicine, and it is also something more.

Case 105.—Annie W., aged 3 years. (Cousin of Case 78, John J.) I was called to see this patient on February 7, and given the following history: she had been sick eight days, had been treated by an irregular physician, under a diagnosis of malarial fever until the parents, alarmed by the severe symptoms, continued high fever and the enormous tympanitic distension, questioned him closely as to the nature of the disease, finally eliciting from him on admission that it might be typhoid fever; when he was promptly discharged. I found the temperature 105.5 degrees, pulse 140, on the evening of my first visit and the same the next morning, the parents having about given up hope, as the child was thought to be dying twice during the night preceding my first visit. There was marked impairment of vision, deafness, and well-marked retraction of the head. When asked if I entertained any hope for the life of the child, I gave my usual favorable prognosis saying: "I think the child will recover and she certainly will if she survive the next forty-eight hours." She had intestinal



Sarah J., age 13 years; date of admission, Feb. 17, 1895.

hemorrhage, which in my experience is rare in young children. She also lost all power of speech, her lower limbs were paralyzed, she had just recovered from whooping cough, which returned to plague us during this attack of typhoid fever, in spite of which she made a good recovery. Her temperature, as you will see, touched normal on the tenth day of treatment, but went up slightly again on the eleventh day. On the thirteenth day the temperature and pulse were normal and the patient was discharged, and ten days later was in more robust health than before her illness.

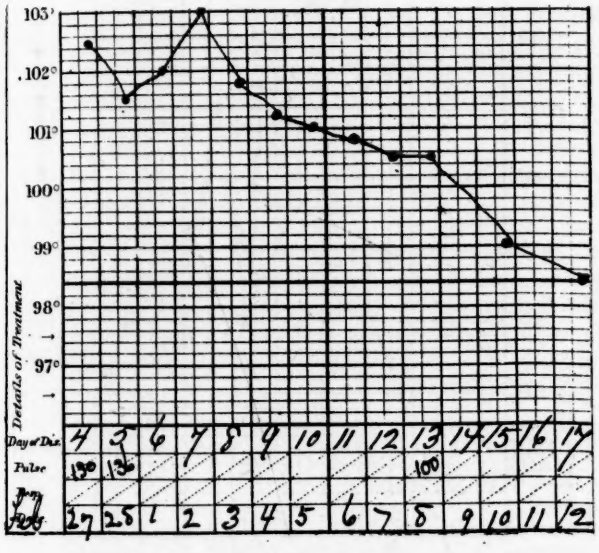
Case 111.—Sarah J., aged 13 years. (Cousin of Case 105, Annie W.) When I first saw this case her temperature was 103 degrees, pulse 130. The next evening it was 103.8 degrees with a pulse of 136. I gave my usual prognosis—ten or twelve days of illness—no danger. Her temperature touched normal on the tenth day of treatment. This case was an exception to the almost invariable rule commented on by so many observers, that after this so-called antiseptic treatment of typhoid fever, almost as soon as the temperature touches normal, the patient is in better health than before the illness. This patient had had some stomach trouble before her illness, and although she recovered quickly from the fever and her appetite was better than usual, for a week or two, she has since been to my office several times for treatment of her old trouble.

Case 112.—Florence J., aged 11 years. (Sister of Case 111.) On February 27, the temperature of this patient was 102.5, pulse 130. Three days later it was 103 degrees, from which time it declined to normal on the thirteenth day of treatment, the patient being in good condition and having an excellent appetite.

Case 113.—Blanche J., aged 5 years. (Sister of Case 112.) This patient had temperature of 101.5 on March 2, with a pulse of 128. On the third day of treatment it was 104 degrees, from which point it declined to normal on the eleventh day.

I am not infrequently called to see young children, especially in consultation, in the late stages of typhoid fever, when no suspicion of the character of the disease had been aroused, but in which the symptoms are so distinctive that no trouble should have been experienced in making an accurate diagnosis. One case of this sort which had been, however, under the care of an irregular practitioner was

Case 98.—Margeret O., aged 2 years. I found the child lying in a cradle, in the corner of the kitchen, between the wall and the cooking range. She was moaning pitifully and sometimes screaming violently; her head was retracted and turning rapidly from side to side. A diagnosis of brain fever had been made. The temperature was 106 degrees; the bowels very tympanitic and the stools very frequent. Taking the necessary steps in the order of their importance, I first



Florence J., age 11 years; date of admission, February 27.

dropped a little powder (to be described hereafter) on the child's tongue; I then ordered the cradle to be moved as far as possible from the fire, and had the child sponged and ordered that the powder be given every fifteen minutes. Later in the night I visited the child but found little change in its condition. The next day I visited her three times and that evening the temperature fell to 105 degrees. The following day the symptoms began to improve rapidly, and she made a quick recovery, being well in ten days.

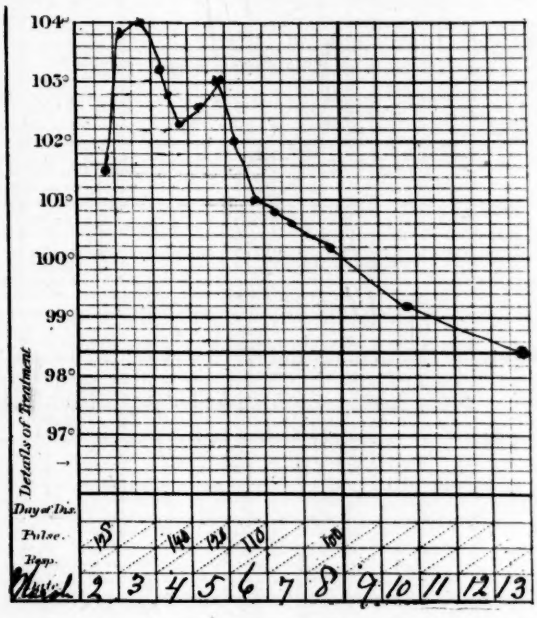
While visiting this child on the second day, I saw a younger child sitting in a suspicious position and when it moved a bloody stool remained. Glancing around the floor I saw two or three others, which though small were quite apparent. I asked the mother to explain and her answer was brief and to the point: "I declare to goodness he's been doing that all day!" Upon examination I found the child with a very rapid pulse and a high temperature. The recovery of this child was somewhat tedious, owing to the advanced stage of the disease when I was able to begin treatment.

One of the most prominent physicians in Chicago, (a gentleman who was long at the head of Cook County Hospital, and was for many years one of the most highly esteemed professors in the foremost medical college in that city so noted for its clever and accomplished preceptors, and whose name is cut in the corner-stone of the college, as one of its founders) has done me the honor to write me several letters of inquiry (he is altogether the best questioner with whom I have ever corresponded) in regard to my method of treating typhoid fever. He has favored me with the reports of several cases treated since our correspondence began.

Case marked—"Dr. McWilliams No.—Helen McC., aged six years and three months. She was taken sick, as you will observe, while away from home at a summer resort. A diagnosis of typhoid fever was made by a local physician, and on the tenth day she was sent home to be under the care of the family physician, Dr. McWilliams. Her temperature was 106 degrees the first day that the Doctor saw her and on the tenth day she was sitting up, dressed, enjoying 'Judge,' 'Puck,' etc."

Dr. Cunningham, of Youngstown, reports the following:

Case marked "Dr. Cunningham No.—Ella G., aged seven months. She was under the care of three different physicians, before I saw her in consultation.



Blanche J., age 5 years; date of admission, March 2, 1895.

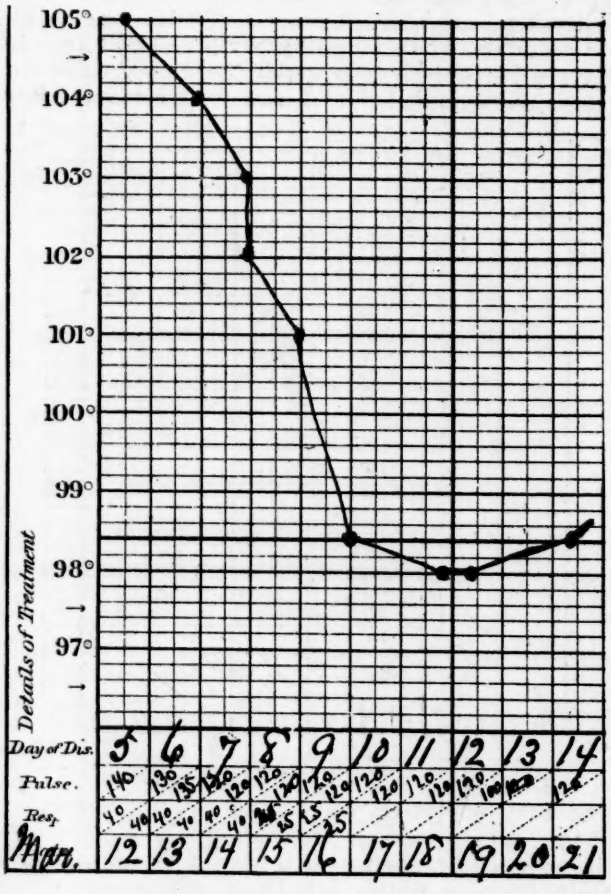
The first physician (according to the statements of the family) made a diagnosis of whooping cough; the second physician said it was meningitis." The child growing worse, Dr. Cunningham was called and made a diagnosis of typhoid fever. When the temperature went to 105 degrees he called me in consultation. The chart indicates the rapidity with which the child recovered. The correctness of the diagnosis was corroborated a few weeks later, when the mother of the child (see chart marked Dr. Cunningham No.—Mrs. G.) had an attack of typhoid fever, from which she recovered; and the uncle (see chart marked Dr. Cunningham No.— James K.) died of shock, resulting from an intussusception, occurring after he was almost well from an attack of typhoid fever.

Dr. C. N. Udell of Iowa, kindly sent me a report of twelve cases of typhoid fever, and one of cholera-infantum treated by my method, with excellent results from which I extract the following record of cases of typhoid fever in children:

Case 8.—S. B., male, aged 9 years. Was taken with chills

fever, headache, vomiting and some abdominal pains. Treated by the family for ague. I was called after the boy had been sick eight days. Found the temperature 104.6 degrees, skin dry, tongue very dry and red, dirty gray fur in center; very nervous; hyperesthesia, delirium, a papular rash, secretions locked. Gave to this boy Nos. 1 and 2 for two days; repeated it at short intervals. Then No. 1 for three days; No. 3 for four days. Discharged patient on ninth day. In this case, as in all others, I insisted on frequent sponging of the body, frequent change of linen, good ventilation of the sick room, same food given at regular intervals, etc.

Case 10.—N. S., male, aged 8 years. Had an intermittent fever. Prescribed c. cath. pills and quinin without seeing patient. Continued sick and weak; no improvement. Visited the boy and found temperature 104 degrees, skin dry, suppression of urine; very weak, headache, and general aching; some delirium, very foul breath, heavy gray fur on tongue with edges red, sordes on teeth, a good deal of tympanitis, some eruption, and sudamina. Diagnosis: septic fever, or paludal typhoid.



Ella G., age 8 months; date of admission, March 12, 1895.

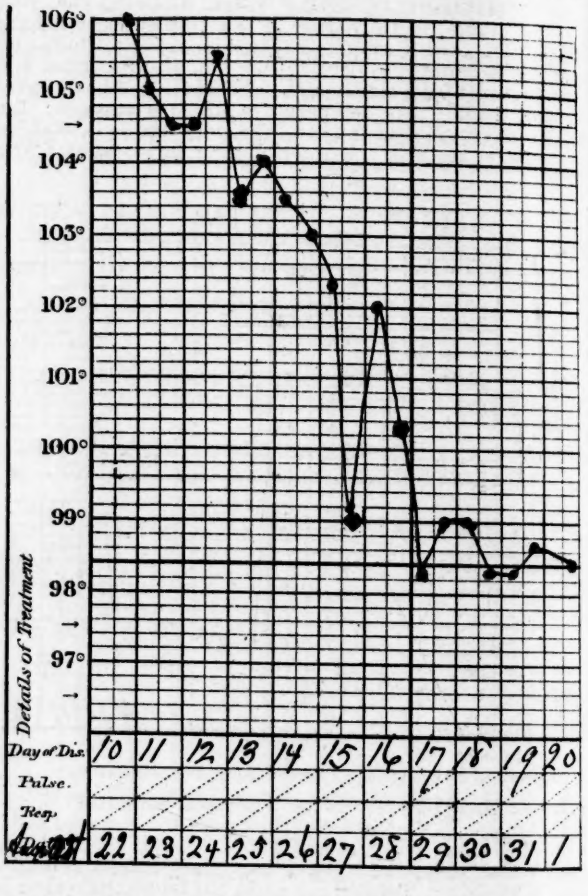
Gave R. No. 1 and No. 2. After three days gave R. No. 3. On the seventh day gave Nos. 1 and 2 again. Then No. 3 for about one week at longer intervals. Patient discharged well.

Case 11.—D. H., male, aged 2 years. Was sick with diarrhea, high fever, very restless, abdomen puffed, vomiting, and furred tongue with foul breath. Gave baptisia tinct. R. No. 3 in minute doses. Recovery in five days.

Case 12.—E. P., aged eighteen months. Hygienic surroundings very bad. Child had cholera infantum with very offensive stools. Gave R. No. 1 in very minute doses every half hour. Had the child kept as clean as possible, and that was not very clean. The child recovered speedily in spite of bad nursing.

These cases illustrate the admirable results which may be invariably obtained and even confidently predicted, when proper treatment has been instituted at a sufficiently early stage of the disease and intelligently and energetically prosecuted; and they by contrast, serve as a warning against the danger of mistaking the nature of the most common, the most dangerous and by far the most frequently overlooked cases of typhoid fever in children, viz., those cases in which the nervous manifestations are in the ascendant; those cases which are diagnosticated as brain fever, meningitis, or cerebro-spinal meningitis. These are the cases in which an inaccurate diagnosis is most liable to occur and which is so often followed by such disastrous results.

As long as the best treatment for typhoid fever, known to the medical profession, aimed only to ameliorate the most perilous symptoms as they presented themselves, it did not, perhaps, greatly signify when an exact diagnosis was made, or indeed, whether or not it was ever correctly made, but we are approach-



Helen McC., age 6 years and 3 months; date of admission, Aug. 22, 1894.

ing a more enlightened era. In reality, the day has even now dawned upon us in which the treatment to a fatal end, of a case of typhoid fever with a temperature of 105 degrees, as a case of indigestion, with inefficient antiseptic medicine, starch and laudanum injections, and cooling baths, is no longer admissible.

The physician who respects the Hippocratic oath and does the utmost in his power for his patient, must acquire skill in differentiating betwixt those diseases which can and which can not be benefited by the abortive treatment of typhoid fever.

Without entering into the field of speculative controversy, it may be generally stated, that any of the so-called microbic diseases, such, for instance, as diphtheria, malarial fever, measles, scarlatina, cholera infantum, etc., would lose much of their fatality if treated on the same general principles which I

have so often advanced for the treatment of typhoid fever.

In the treatment of typhoid fever in children, the first and most important step is to thoroughly asepticize the alimentary canal, and to eliminate as much as possible of the specific poison, by free catharsis and diuresis.

This can be effectually done in older children, with the tablets and soft capsules described in a previous paper, published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. In younger children, my method of procedure is to begin the treatment with the following powder:

℞. No 1—Podophyllin resin . . .	grains 1.		06
Mercurous chlorid, mild . . .	drachms 1.	4	
Guaiacol carbonate	drachms ii.	8	
Menthol	grains x.		60
Eucalyptol.	q. s.	qs.	

Of this powder I give to a child 1 year old, ½ to 1 grain every hour or oftener, if the case present very severe symptoms. I order each dose of medicine to be washed down with large draughts of distilled water, urging the child to drink as much as possible between the doses of medicine. These doses of the powder should produce free catharsis during the second period of twenty-four hours. Should diarrhea be present before treatment is begun, the indication for the antiseptic medicine is all the more urgent and nothing should be exhibited that could in any way interfere with its action or its administration. As soon as the free movements of the bowels change in color, or the absence of odor shows that the physiologic effect of the antiseptic has been secured, the remedy may be given in smaller doses and less frequently. If the carbonate of guaiacol in the powder is insufficient to produce the desired condition, it may be given separately or combined with eucalyptol in olive oil or any other suitable diluent. If the temperature continue long at 105 degrees, guaiacol and eucalyptol may be used externally, or an occasional sponge bath may be given.

DISCUSSION ON PAPERS OF DRS. NOYES AND WOODBRIDGE.

DR. WILLIAM OSLER, of Baltimore—In typhoid fever I think we are agreed that young children are really not so susceptible as adults. Take an epidemic like that Plymouth, where many young children are exposed, and yet we find the percentage of susceptibility among them not so great as in adults. There is, therefore, less susceptibility on the part of very young persons. In a large number of cases in children, the disease pursues a milder course. There are many practitioners who have observed numerous cases without a death, and nearly all of us may have had a series of thirty or forty cases without losing one. I have treated a series of fifty-three cases without a loss; again, in another series of cases there would be considerable mortality.

An important point referred to by Dr. Noyes and others, is in reference to the simulation of typhoid fever by other diseases. That is to say, the frequency with which typhoid fever begins in children with head symptoms. This fact requires constant emphasis. The disease may set in with severe headache, or crampy attacks, or general twitching of the muscles. Another point that has been referred to is the anatomic diagnosis of typhoid fever. It is not a new observation that there are many cases in which the Peyerian glands are enlarged, and where there are those febrile influences at work. There are other cases where we meet the typhoid bacilli not so much in the lymphatics, as in the spleen and other parts of the body. There are two or three recorded observations in which the disease was shown definitely to be typhoid fever by bacteriologic examination, where the Peyerian glands were little or not at all affected. Typhoid septicemia may be due to general invasion of the blood or organs by typhoid bacilli. Several such instances have been placed on record.

Now we come to the treatment of typhoid fever, which of course, is the burning question. It is difficult really to know what to say about the treatment, and in relation to the statement which Dr. Woodbridge makes, it is a question whether it is not better to say nothing at all. When a man comes forward with such emphatic statements as Dr. Woodbridge makes, it startles us. We are not accustomed to them in the medical profession. It is an innovation to meet with such an emphatic statement as the Doctor makes, namely, that there need be no case of typhoid fever resulting fatally. He must know his disease well to say that, and you have to know that which he does not appear to know—that typhoid fever is not a disease in which the bacilli live on the surface of the bowel, but that typhoid bacilli live in the tissues themselves, and what can you do to disinfect the intestine with such a mixture as Dr. Woodbridge describes?

It is astonishing what a degree of credulity we have in the medical profession. We all have it in a measure, and it is painful that it is so. I am not one of those who cry out: "Can any good come out of Nazareth?" There is just as good work done in Youngstown and similar places, as in Baltimore or Philadelphia; but I do say that such emphatic statements should not be made, except when based upon a long list of cases, and upon cases studied more rigidly and thoroughly than Dr. Woodbridge seems to have studied his, particularly with reference to the question of diagnosis.

I was extremely grieved to hear the jokingly ungallant remark of my friend, Dr. Adams. The character of his resident physician must be very exceptional. I do not think I ever had to deal with a resident physician into whose hands I would intrust the giving of a typhoid fever bath. I think it should be given by an intelligent nurse. (Laughter.) Doctors have not the patience, moreover, their skins are too sensitive; it is well known that the skin of the hands and arms of the female is much less sensitive than that of the male, and woman alone can give the thorough frictions of rubbing which form such an essential feature in the treatment. I am sure the Doctor's list of mortality would be very greatly reduced if he were to instruct his nurse in the matter of giving the bath, and not trust so much to his resident physician. (Laughter.) I am a warm advocate of the Brandt method, have used it with the usual success that attends that method in the hospitals, and have reduced the mortality by from 6 to 7 per cent., varying with the severity of the cases. There can be no question that in the hospitals throughout the country the mortality may be reduced by that percentage if the Brandt method is introduced, and the bath is trusted to the nurse. (Laughter and applause.)

DR. PEPPER, of Philadelphia—We have not said the last word as to the diagnosis of typhoid fever, nor as to any particular method of diagnosis. We have assumed at times that we knew all the affections. There are many that await discovery, and these display themselves in adults and children in such manner that at times they resemble affections with which we are more familiar. We must apply ourselves to an immense series of typhoid fever cases as occurring at all ages, and in different localities, because age and locality modify typhoid fever preëminently, and we must apply a more defined diagnosis than not only is applied to-day, but perhaps more defined than our knowledge of physiology will at this time permit, before we can attempt to dogmatize in reference to this disease.

I would urge, then, the greatest caution in regard to this question of diagnosis and great reservation in drawing conclusions. How often have the conclusions of one generation been repudiated by the diagnosis of the succeeding generation, and it is not only to-day that we have the means of that refined diagnosis on which all these statistics of the future as to anatomic lesion will ultimately be fixed. I have been treating children for thirty years, and have been trying to diagnose typhoid fever in children for over thirty years, and I feel great modesty in regard to the matter, because I find myself making as great blunders to-day as I made many years ago, due, perhaps, to giving too much attention to the later methods. This is so in regard to every test, except that of pure bacterial culture, and upon that, I think, is going to rest the diagnosis that shall stand the test of time.

I have treated a long series of typhoid fever cases without a death, and have also treated a long list of typhoid fever coming from the same communities, with the same care and same remedies, and have had disastrous results in a certain proportion of cases. I have used the Brandt treatment rigidly, and have had patients to die after it had been used with the utmost care. When we come to the question of treatment, I would unhesitatingly give my acquiescence

to Dr. Adams' position. It seems to me that with the evidence before the world to-day, drawn from every country in the world, in hospitals, and in private practice, that the medical practitioner who does not use the cold bath treatment in infectious diseases is derelict. It appears to me that he must be prepared to use it when certain conditions arise. I think, also, that the man who depends absolutely upon it, and applies it in a strictly routine way, without reference to the qualifications of particular cases has not yet learned the resources of his art.

I think the Brandt treatment as liable to abuses as any other treatment that has been brought forward, or that ever will be brought forward, but that in dealing with continued high fever infections—continued fever—it is the best method of treatment, is evidenced by the most convincing proof. It is perfectly compatible with other elements of treatment. I am less of a skeptic than my friend Osler, as regards medication. I believe myself that in a disease like typhoid fever, where we have a large anatomic lesion, as a rule, he is perfectly right in saying that we should remember that it is not a question simply of intestinal lesion. Some symptoms are so virulent that the system becomes saturated with the poison to such a degree that no treatment will save that subject. But in the ordinary cases, in the majority of instances, we have those intestinal lesions as a source of abiding danger, as a source of many symptoms.

I believe that upon the diet largely depends the extent to which this intestinal lesion may develop. I believe this in consequence of a very long and extensive observation of the disease, continued after the introduction of the Brandt method, and I believe in the use, at the earliest moment suspicion enters the mind of the practitioner that there may be an infection and symptoms similar to typhoid fever, of some remedy, because of its harmlessness, which shall exert its influence upon the intestinal lesion—antiseptic, if you please, or a sedative. We should apply some remedy to affect the intestinal walls. I do not attempt to dogmatize as to what that remedy shall be. We are not going to do any harm if we follow that up by the Brandt treatment. Some of the formulas I see published, I should not consent to take into my own stomach if I had typhoid fever, and I do not think they ought to be administered to patients. It is well to apply those remedies that are harmless, and I believe that before the Brandt treatment comes in there is an opportunity for direct local treatment of the mucous membrane by rigid diet, and by such medication as may, to some degree, influence the extent to which the disease may progress and limit the subsequent course of the case. Once let the case reach the end of the second week, and I do not think anything in the world will affect remedially the intestinal lesion. That is the time when the Brandt treatment is our sheet anchor, as it were, but I would not pin my faith to any one specific treatment. I think it is dreadful to say the treatment of typhoid fever must be confined to the antiseptic treatment or the Brandt treatment. I should not like to say that the successful treatment of typhoid fever depends upon any particular treatment. I plead for less dogmatism. (Applause.)

DR. J. A. WORK, Elkhart, Ind.—I am not prepared to accept any one course of treatment, without medicine or with medicine. I am very much pleased with what was said by the gentleman just preceding me, in reference to his liberality in treating typhoid fever. I believe that we made a mistake in former years in the treatment by not beginning in the very earliest stages to eliminate it, as I believe that the early effort at elimination is the keynote of treatment in typhoid fever, or in the treatment of any zymotic disease. I advocated this at Milwaukee two years ago. I had experience before I advocated that treatment, and have had experience since. It is a fact that we are too often called too late in the disease, and consequently too late to apply effective eliminating remedies. Eliminate first, and then neutralize at the same time by antiseptic remedies, reduce the fever by sponge bath or by the Brandt treatment. We must realize that we have a human being to treat, and not a disease alone.

DR. GEO. N. ACKER, of Washington—I think the true diagnosis in these cases is often made when the case is over. In Washington we have a great many cases of typhoid fever in the Children's Hospital. Dr. Adams and myself have had a number; he lost one and I lost two under treatment by different methods. One of my cases was complicated by pneumonia and died, and the other suffered from perforating ulcer. The Doctor and myself are connected with the same hospital, and treat about the same class of cases. He sees a better class of cases than I do, because he has more patients than I have. I give more medicine than Dr. Adams, and always have done so. If I see a case early enough, I give calomel in small doses and then I give sulphuric or muriatic acid in small doses. I always apply the sponge treatment, when the temperature goes over 103, but I rarely ever resort to the Brandt method of treatment, for the reason that I have found that it depresses the heart action; I have had poor success with it, and I have charts to show it. I maintain that this great change in temperature is more injurious than beneficial. Dr. Adams proves by his charts that the temperature has fallen from 105 to 97 degrees. I do not believe that is good. Dr. Adams says he always wants the resident physician present. So do I, because I would not trust any nurse with a case where the change in temperature is so great. The Brandt method does not shorten the course of the disease, and I have discontinued it.

In regard to Dr. Woodbridge's paper, I do not understand his cases of typhoid fever. We do not have such cases in Washington, where every patient gets well. I have had in my hospital practice forty cases, without a death, but then I have had deaths after that, and I think that, in the long run, the Doctor will find that he will have the same experience.

DR. ATKINSON, of Baltimore—The discussion seems to hinge upon two points—the question of diagnosis and the question of treatment. A great deal of the confusion which exists in regard to the diagnosis of typhoid fever in children grows out of the expectation so often held that typhoid fever runs a typical course in children, when it does not. In most cases of typhoid fever in children they are typical. It has been agreed generally here that typhoid fever nearly always runs a typical course—a favorable course. My experience is that typhoid fever in children runs a favorable course; but I think our results will be more satisfactory if we disabuse our minds of the idea that certain characteristics invariably must be present. As soon as we are able to exclude the tangible affections that we can attribute to other causes, to spinal meningitis, for instance; as soon as we are able to definitely exclude those agents that are capable of recognition, and have a fever that is continuous, day in and day out for ten days or two weeks, that we are unable to control by the ordinary remedies; we are then almost certain that we have a case of typhoid fever to treat. In adults, errors of diagnosis of this kind often result disastrously, but in a child it is not so disastrous if we are not too zealous in the activity of our treatment. Most cases of typhoid fever recover and the question of treatment, I think, becomes quite a small one. Mild cases of typhoid fever are best treated if left alone.

In my experience, constipation is the rule in typhoid fever in children, and not diarrhea. If we supply nourishment and treat the symptoms by the usual efficacious methods, we find that mild typhoid fever will terminate in the usual time. When the temperature rises, I have no hesitation in giving my testimony in support of the statements of Dr. Adams and others, to the effect that the Brandt treatment is the proper treatment. As for the injury inflicted by it, as referred to by Dr. Acker, I think that is for the most part imaginary. After the bath is administered, the temperature will soon rise to the same degree as prior to the bath, and even when we give forty or fifty or sixty or seventy baths, we find that within a few hours the temperature has again reached the point at which it was prior to each of these baths. Nevertheless, the benefits arising from the bath are apparent. Previous to the bath we find the tongue hard and dry; after the bath it has a soft coating. When the child protrudes the tongue, it comes out readily and goes back with a jerk, showing the activity with which the child responds to the order. The use of the bath when administered in an unprejudiced way, will give us the best management of typhoid fever, whether in adults or children. I think the administration of medicine to be carried along the intestinal canal is commendable. The administration of an agent that will lessen the offensiveness of the stools is desirable, but as for conducing to the recovery of the patient, I think it is not worthy of consideration.

DR. PARKER, of Massachusetts—Typhoid fever in children is like typhoid fever anywhere else. It is a serious disease and demands our most careful consideration. In the hospitals of Vienna and Munich I found that very great concern was given to every detail, and more particularly to the details of the hygiene of the bed. There is one point here which has not been touched, and that is the stimulation of the patient. To use brandy or whisky, or the various preparations which we have administered for that purpose, I think is a mistake. I believe strong stimulants act injuri-

ously, are not easily controlled, and are not advisable. Therefore, it seems to me that the Munich treatment of red wine is altogether the safest and best stimulant in typhoid fever. In regard to the intestinal antiseptic, I think this of great importance. I have seen patients show great improvement when attention was given to the administration of intestinal antiseptics.

Dr. Burns—If one attends the local society, then the county medical society, then the convention of the State society, and finally attends the convention of the National society, with a view to acquiring some practical knowledge of the etiology or diagnosis of yellow fever, or of cerebro-spinal meningitis, he finds himself sadly disappointed. I live in a malarious country, and am constantly beset with the difficulties that appeal to all medical men who live in similar countries. I am convinced that in cerebro-spinal meningitis, its relation to typhoid fever and some other diseases is such that the more one studies either typhoid fever or cerebro-spinal meningitis, the more he is confused by the similarity that exists between these diseases. As has been said here to-day, in different ages it was thought that the solution of the problem had been made, but time proved the fallacy of the hope, and now the solution of the problem of diagnosis seems to be as far off as ever. The bacteriologists have deluded themselves as others have in the past. We find the different masses constantly opposing each other, and thereby impeding progress.

Dr. Larrabee, of Louisville—We find all sorts of opinions on the subject of typhoid fever. Sanitary conditions have much to do with typhoid fever. Typhoid fever will prevail anywhere that the child gets the poison, whether it be one year or any number of years old. The point of greatest advancement in regard to the diagnosis of typhoid fever has been the elimination from practice of the several diseases that were supposed to conflict. That is the elimination of so-called remittent fever. This remittent fever has been determined in most instances, if not in all, to be the fever under consideration, and then the withdrawal by the famous author himself of another disease renders it still easier to diagnose typhoid fever. So that the disease in childhood is made plainer by the elimination of these other diseases. I agree perfectly with the first gentleman, who said that these cases are to be diagnosed by exclusion. We are dealing with a fever that is interrupted by quinin, and particularly when there is the symptom which has not been alluded to, but which I think makes a bedside diagnosis as soon as any other, and that is the thing from which it takes its name—the typhoid, the smoky hue.

The gentleman spoke of a child protruding and pulling back the tongue quickly. But there is more in the condition that originally named the disease. Unless that condition be present, I should suspect something else. The next question was the headache manifested in the child. It does not continue to be a symptom after the second or third day, and the continuation of the fever is a good symptom of typhoid fever. As to the duration of infantile cases, it is usually observed that in the common cases there is a cut-off. That is the time we have the most decided symptoms of poison. When we reach the limit of 14 or 15 years, I think there is no distinction in the two cases. There is a crisis about the fourteenth day.

Another point is that we do not shoot any worse by having a mark to shoot at; that is, having a definite object in view. The claim is made that in the Brandt method, if it be very carefully guarded, as Dr. Adams says, and giving a drink of whisky and a little opiate, the mortality is greatly reduced. The Doctor says it also makes a patient comfortable. Is that the only object we have in view in typhoid fever? We have a chart here, presented by the Doctor, which, stretched across the room like a Chinese scroll, gives the temperature covering a period of six or seven weeks. This patient recovered. Now the question is, whether that treatment was better than if an attempt had been made to thwart the disease, as spoken of by Dr. Woodbridge. Whether it is better navigation for the sailor to pay attention to only one course, and cast the lead to see where the safety lies, or whether it is better to take a certain observation and ascertain the true position. In other words, whether the thermometer is the only thing to go by, or whether it would be better to take into consideration other symptoms; whether it is curing a case to suppress the temperature for a given length of time, admitting that it again returns to the point it had previously attained. Is not the patient under that treatment more liable to be worn out than under the other treatment? I am not prepared to indorse one method any more than another. It does seem to me that having a chart and knowing where we are going, is a great deal better than throwing the lead to see where you are, at one time, as compared with another. The only comment I have to make, is that we are about where the sailor was when he tried the lead over on Nantucket. We have not progressed as much as we thought we had.

Dr. Burr, of Chicago—I make two pleas: a plea for the earlier employment of hydropathy in typhoid fever, and a plea for the treatment of the temperature in the disease. If there is anything in any plan for the cure or control of any disease, it should have its physiologic basis. I have not heard a word said to-day for any of those remedies, except the so-called intestinal antiseptic remedies. If it is worth while, as Dr. Pepper has said, to institute your method of treatment six or eight or ten days after the disease has begun, when the temperature has reached 104 or 105, it is certainly worth while to have that treatment in the beginning of the disease, and if it is of any avail whatever in the control of it, it has the additional merit of being resorted to at once. Do not wait for the diagnosis. There is no treatment so harmless and so easy. I want to say that in my own experience, and from what I have read of the statistics of the most eminent practitioners, there is no method so appropriate and so safe. Until we get the all-powerful specific, we must use controlling methods.

I want to say one more thing in regard to temperature. It seems as though we have been fighting fever on the score of temperature. Temperature is a symptom, not a disease. It is not high temperature that ails your patient, it is poison, and if you have not the direct specific for the poison, or for the control of it, and if you can stimulate the nerve cells and stimulate the alimentary cell itself, whether it is in the muscle or nerve, or in the protoplasm of the blood itself, you are going to help your patient that much in weathering a severe disease. I will also say that in the carrying out of this hydropathic proceeding, it can be done without harshness by following plans which I hope to place before you to-morrow, in the use of the portable bath tub, and without disturbing the patient, by lifting out of bed to place in the tub. You can very soon educate the most delicate person to take the bath by this mode.

Dr. S. Solis-Cohen, Philadelphia—The great mistake that is made by those who criticise the Brandt method of treatment, and indeed by some of those who use it, is in reference to the reduction of temperature. A reduction of temperature is an incident in the treatment of typhoid fever. It is an index of the severity of the process that is going on in the organism. It is due, I believe, to poisoning by two things—by metabolic products and by poisons degenerating within the individual attacked by the typho bacillus, and not directly due to it.

The treatment by cold bathing instituted early in the course of the disease, carried out systematically and with judgment, by trained nurses, under the supervision of the physician, does two things: first, it soothes the excited nervous system of the individual. This excitement of the nervous system is one of the most serious features of the disease, and gives rise sometimes, as stated here, to the most puzzling symptoms. I remember very well an experience in my own house—fortunately the child recovered—in which the nervous symptoms predominated over everything else in the case, and were obscuring to the diagnosis, and prohibitive of the treatment by the cold bath, and led to the prolongation of the case. Cases are rare where the nervous dread of the bath prevents continuous application. In some cases I have seen a pronounced nervous excitement calmed and the delirium allayed by the use of the bath, and the instance cited by my friend, Dr. Larrabee, of the child quickly drawing back its tongue is an argument in favor of this method of treatment, because that is what it was due to.

The Brandt treatment is not an anti-thermic, but an anti-typhic treatment. It allays nervous excitement. Secondarily, it stimulates metabolism, the kidneys and bowels are all set at work, and there is an increased throwing off of the poison to which typhoid fever is due. I indorse the words of Dr. Pepper, when he says that the physician who fails to give the patient the chance that is afforded by the cold bath is guilty of neglect. I do not advocate applying the bath indiscriminately. I believe there are cases which show in the beginning that they are going to run so mild a course that the bath treatment is unnecessary, but, on the other hand, I do not believe that it is doing any harm to steer a safe course and resort to the use of the Brandt treatment as the safest course. There are toxins produced in the intestines under the unhealthy condition, poisons independent of typhus bacillus. I believe that by the early use of some

antiseptic drug this might be prevented. What that shall be, I will not take the time to discuss.

Another point I wish to call attention to is this: it is absolutely necessary, in order that the Brandt treatment may be properly carried out, that the patient after the bath shall be put into a warm bed and dried, warm applications applied to the feet, and a little alcohol should be given, just as before the patient is put in the bath. They should not be allowed to remain in the bath until the temperature falls so much as 7 degrees. I think a fall of a degree or two is the safer course. I am satisfied that the use of the Brandt treatment, with proper safeguards, will materially reduce the mortality in typhoid fever cases.

DR. WOODBRIDGE, Youngstown, Ohio—I feel a little embarrassed. My peculiar theories have not been quite so severely criticised as I have been accustomed to have them criticised. Consequently I have not very much to answer. One criticism I revert to, made by the distinguished gentleman, Dr. Pepper. Does he mean that I would be derelict in failing to give my patient the benefit of the Brandt treatment, when after nineteen years of experience in treating hnndreds of cases of typhoid fever, I have had no death for thirteen years, when my brother practitioners had as many deaths as in former years, not to follow the Brandt treatment? Would it be wise for me to abandon the method I have pursued with such success? I am just as certain as can be, that Dr. Pepper will within five years be a better advocate of what I have outlined than he is now of the Brandt treatment. A treatment that will take hundreds of cases of typhoid fever safely through an attack, with no delirium, with no headache after the first two or three days, with the tympanitis disappearing within forty-eight hours of beginning of treatment, with an average duration of disease of less than ten days, is better than the Brandt method.

It seems to me that the position of the medical profession, to say that in typhoid fever it is impossible for the medicine to abort the disease, while saying that nature can abort it, is an inconsistency.

DR. OSLER, of Baltimore—Tell us about the drainage of Youngstown.

DR. WOODBRIDGE—We empty our sewers into the river and let the lower portion of the city have the benefit. (Laughter.) Seriously speaking, there is a large portion of our town above the waterworks, where there are no sewers and the drainage all washes into the river.

DR. ADAMS, of Washington—I believe I have been misunderstood here. Dr. Cohen has manifested a disposition to help me out. In speaking of the nurse administering the bath, I meant that it should be done under competent supervision. The doctors do not do anything so far as the handling of the patient is concerned, but help the nurse to put the child, if a large one, into the bath. Almost a mutiny, so to speak, occurred in the hospital a couple of years ago. The doctors said that they did not care about being disturbed at 2 o'clock in the morning for the purpose of supervising the bath, and I decided with the nurses that they had a right to supervise the baths. As Dr. Cohen says, there are cases of typhoid fever in which there need be no treatment of this kind. If the temperature does not rise, I do not see the necessity of employing the Brandt treatment. I have tried the intestinal antiseptic, but have not seen any especially beneficial results from it. I have not tried the remedy advocated by Dr. Woodbridge.

HEMORRHAGIC PLEURISY.

BY FRED. W. D. EVELYN, (EDIN. UNIV.)
PRESIDENT SAN FRANCISCO POLYCLINIC.

A. B., age 45; miner: family and personal history good; no specific disease; moderately alcoholic; general nutrition good. Stated that two weeks ago he had felt a sharp pain in right side; did not last long; experienced no unpleasant sensations, no fever, he thought, although face was flushed. Saw a doctor, but was not examined. Just before presenting himself for examination at the clinic had been a little short of wind but no other trouble. Slight cough; no spit; appetite poor; bowels constipated; urine scanty and high colored. On admission face was flushed, slightly anxious; no dyspnea; tongue moist; white fur; lips, slight cyanosis at angles; temperature 100 degrees, respiration 32, pulse 80. Tension marked, regular. Physical examination: chest regular and uniform in outline; apex beat normal in position; no abnormal pulsations on chest wall; veins not varicose; movement free on left; retarded on right inframammary and lower axillary region; no vocal or friction fremitus; percussion: left side normal; right, area of inaction referred to above gave a dull toneless note accompanied by sense of resistance; other areas, note somewhat tympanitic. Auscultation; left side, harsh breathing over all; right, dull area; general absence of normal breath sounds, but in certain areas large bubbling râles, simulating redux crepitations could be heard. Voice sounds absent, except at points where they seemed to be conducted to chest wall. Effusion into pleura was concluded to be present and probably of a non-homogenous nature. Notwithstanding the relatively high level reached (fifth rib) there were no signs of visceral displacement or positive intrathoracic pressure. Aspiration gave a fluid of a dark pink color, containing a large proportion of blood.

Patient complaining of great pain and distress. The aspiration was stopped, only five ounces being removed; patient was seen daily. Bowels and kidneys were kept somewhat active. No rise in temperature, no symptoms, save slight pain and very slight shortness of breath were complained of. In the absence of all indications of urgency, I did not aspirate for one week, then drew off eighteen ounces of a similar fluid; later on abstracted twenty ounces; no symptoms whatever supervened; the temperature became normal; the lung gradually filled out to its normal extent, but at the end of five weeks physical examination failed to detect any indications of fluid and the auscultatory phenomena were perfectly normal. Three months later, lung was perfectly resilient and the patient in good health. No heart or other lesions were present.

Some points of interest in this case may be suggested. The most complete and perfect return of the lung to its normal condition; the extensive effusion and the almost negative constitutional and mechanical symptoms; the sudden onset sufficiently pronounced to admit of it being considered acute.

Stasis: a mechanical congestion resulting from pulmonary congestion, pneumonia, etc; the absence of secondary causes of hemorrhage, cancer, miliary tuberculosis, renal, hepatic or splenic lesions must not be overlooked. Their absence would almost exclude the possibility of the case being one of hemorrhagic pleurisy following hemothorax. The effusion was not simply a solution of hematin crystals but contained blood discs and admitted the conclusion that the case was one of rapidly forming effusion; friction and accordingly pain, being of a correspondingly short duration; active congestion and either an excessive diapedesis of the red corpuscles through the vessels, or the rupture of a vessel with a free hemorrhage into the cavity.

The New England Climate. From the *Boston Globe:*—"Change of climate is what you need," said the high-priced physician, after he had listened to all the details of the patient's case. "Change of climate!" exclaimed the patient in surprise; "Why, man alive, I've never had anything else. I've lived right here in New England all my life."

SOCIETY PROCEEDINGS.

American Orthopedic Association.

Abstract of the Proceedings of the Ninth Annual Meeting, held in Chicago, Sept. 17, 18 and 19, 1895.

The society met in the Columbus Memorial Building, 103 State Street, and was called to order by the PRESIDENT, DR. JOHN RIDLON, of Chicago.

After the transaction of some routine business, the President delivered his Address. He selected for his subject

THE GROWTH AND PROSPERITY OF THE AMERICAN ORTHOPEDIC ASSOCIATION.

He said if one thing more than another had been instrumental in bringing about the present healthful organization, it was a wisely framed constitution and by-laws and a strict adherence to their requirements. To become a member the candidate must be personally known by at least two members of the Association who voluntarily nominate him for membership, and he must have a creditable record of orthopedic work either as a writer, a teacher, or a clinician.

The generous expenditure of practically the entire income of the Association in the annual publication of its volume of Transactions had played no unimportant a part in the development of the society. In this regard, President Ridlon urged upon the members the serious consideration of the publication of a monthly or, at least, bi-monthly journal, which shall contain all the papers read and discussions before the Association and abstracts of all other worthy publications upon orthopedic subjects, whether first appearing here or abroad. Such a journal could be issued at little, if any, increase upon the cost of the present Transactions, and in the hands of an enterprising editor could within a year or two be made almost self-supporting.

Dr. Ridlon closed his address by paying a tribute to the memory of Drs. Little and Detmold. Wm. John Little was born in London on August 17, 1810, and died July 7, 1894, being nearly 84 years old. Wm. Detmold was born in Hanover on Dec. 27, 1808, and died in New York Dec. 27, 1894. In reviewing the record of the long and active lives, and of the work accomplished by Dr. Little and Dr. Detmold, one feels that truly there were intellectual giants in those days.

DRS. R. W. LOVETT and JOHN DANE, of Boston, contributed a joint paper entitled

FLAT FOOT.

They submitted the following conclusions: 1, that the feet of the infant at birth are not flat; that the tracing at that time resembles the adult normal foot; 2, that a body of fat develops under the arch which gives the appearance of flat foot for some years, and that at the age of 4 or 5 years this is absorbed; 3, that the smoke tracing is not a perfect method of studying abnormalities of the arch of the foot, because it fails to detect the slighter cases or to record pronation; 4, that the element of pronation is more constant than breaking down of the arch of the foot and may be entirely separated from it; 5, that the condition of pronated foot without breaking down of the arch of the foot should be recognized and not confused with flat foot; 6, that the treatment of pronated and flat foot is the same, and consists in the use of proper boots, the application of a pad or plate, the stretching of the gastrocnemius muscle where it is shortened, and in the routine use of massage if obtainable, and always of exercises to develop the muscles which hold up the arch.

DR. S. L. MCCURDY, of Pittsburg, read a paper on

CONGENITAL ABSENCE OF RADII WITH OPERATION.

The patient was five months old, birth at full term. Presentation normal. Complete absence of the radii, with abnormal relationship existing in the blood vessels and soft structures of the forearm, otherwise child perfectly developed. Operative interference was not advised, for the reason that no successful method had been invented. In the worst cases, where there is much bony deficiency, the choice lies between amputation and doing nothing. Professor Bardenheuer two years ago presented a new method for the operative treatment of these deformities. His operation in the forearm consisted in replacing the defect at its lower part with bone, and thereby permanently correcting the deformed position of the hand.

The operation is performed by a longitudinal incision, the distal end of the ulna and the carpus are exposed, and the first isolated from its attachments. The ulna is then split through its middle into a radial and an ulnar section. These are separated by allowing the carpal bones to come up between them. By means of a nail through each side, the ends are fixed to the carpus. A plaster bandage is applied, and left on for four or five weeks. This operation is easily carried out. It has been done by Bardenheuer three times, and the results in all three cases were good, both from a functional and cosmetic point of view. In all cases the deformity was permanently corrected. The same principles may be adopted in the treatment of other defects. In cases of congenital defects of the tibia or fibula the same operation has been done once in each. The best result was obtained in the fibular defect.

March 1, 1895, operation was done, the desire being to adhere to the method described as near as possible. It was not possible, however, to follow the method. The soft structures, tendons, etc., were so much shortened that to attempt to shift the end of the ulna across to the center of the carpus would have been impossible except by a virtual amputation of the arm. To have split the ulna and wire the carpal bones between these ends would have been impossible. The only method was to sever the ulna at a point where the free end of the upper fragment could be brought to the semilunar. The semilunar was curetted and drilled, and after drilling the ulna these bones were adjusted with silkworm gut. It was necessary to tenotomize the tendons upon the radial side of the forearm before the hand could be straightened. A number of arteries were severed and required ligation. The cut through the soft tissues was made obliquely across the forearm, beginning upon the dorsum of the wrist, upward and around under the forearm, the object being to allow the structures to slide upon each other, and then sutured in the corrected position, thus avoiding the gap that could otherwise be left after a cross section. After dressings were applied, the hand was put up in plaster-of-Paris. Primary healing. The operation was done on the left hand, and a second operation was planned for the right arm, but the patient died with pulmonary tuberculosis five months afterward.

The author reported a case of congenital deformity with a decided history of natural impression. Mrs. S., whose husband was a railroad conductor, when about six weeks pregnant, was startled by the appearance of a crowd of men with a man on a stretcher, thinking it was her husband. She has a habit (when startled or in grief) of grasping the fingers on the left hand including the thumb, just below the knuckles, by the right hand. While the injured man was not her husband, the impression was imparted to her unborn child.

DR. A. M. PHELPS, of New York, reported a case of congenital dislocation of the shoulder joint, and described an operation for its relief.

REMOVAL OF THE ASTRAGALUS FOR TALIPES VALGUS.

DR. JAMES E. MOORE, of Minneapolis, read a paper on this subject, in which he said that the modern non-operative treatment of talipes valgus was so satisfactory that it is rarely necessary to consider operative measures. In acquired flat foot, several operations have been tried in extreme cases, and among them Ogston's operation, which had probably been performed more frequently than any other, but at present it did not seem to have any very enthusiastic advocates. The scaphoid had been removed, but had not been followed by flattering results. The writer had studied this subject carefully about two years ago when the following case fell into his hands. The patient was a woman, 20 years of age, who had cut the internal lateral ligament of the ankle when she was a child by stepping on a piece of glass. An examination showed that the uninjured foot showed a natural tendency toward flat foot, and the injured foot showed extreme flat foot, with the inner side of the great toe turned almost directly downward. She had grown gradually worse for some years, so that when she came to him she had been obliged to give up her employment as a domestic on account of the severe pain produced by standing or walking. On June 26, 1894, chloroform was administered with the hope of forcibly correcting the deformity, but owing to the extreme rigidity of the foot, failure was feared, so the patient's consent was gained to resort to a cutting operation if it was found necessary. It was found impossible to overcome the deformity by manual force, and an operation was decided upon. The displaced astragalus formed the bulk of the deformity and was the keynote to the trouble. This, the author decided to remove, which he did through a longitudinal incision in the inner side of the foot. The foot could be immediately placed in a very satisfactory position. The usual surgical dressing was applied and the foot held in proper position by a plaster-of-Paris

bandage. The healing was prompt and satisfactory, and in about two months the patient began to walk. There is a marked improvement in the position of the foot. A photograph was shown, taken about one year after the patient began to walk, showing that the ankle, which was atrophied, had developed considerably. The result of the operation was more satisfactory from a practical than from an esthetic point of view. The patient still complains of some pain. When she stands much or walks more than usual, the foot is somewhat swollen in the evening, but she is now at work. While she is in every way better than before the operation, the result is not perfect, but the writer hopes that eventually she will be quite well.

DR. JOEL E. GOLDTHWAIT, of Boston, read a paper entitled

TENDON TRANSPLANTATION IN THE TREATMENT OF DEFORMITIES RESULTING FROM INFANTILE PARALYSIS.

The purpose of this paper was to call attention to the possibility of furnishing better mechanical attachments for certain non-paralyzed, or only partially paralyzed, muscles, as a part of the treatment of infantile paralysis. A certain number of cases were reported with results that were most gratifying, and from which it appears not unreasonable to class tendon transplantation with tenotomy and the other surgical procedures which have a place in the treatment of this condition. At the knee, undoubtedly, tendon transplantation could be employed to advantage in a certain limited number of cases, and possibly at some of the other articulations, although the best results are to be looked for in those portions of the body where the tendons are well formed and lie superficially. The operation is not to be attempted upon the tendons of muscles which are wholly paralyzed, except possibly in rare instances for the purpose of furnishing an additional support of a purely tendinous character. It is conceivable that in the foot, for instance, if the tendons on the inner side are more atrophied and offer less resistance than those on the outer side, these tendons might be attached to the inner side and thus increase the lateral support. This is merely a suggestion, however, it not having been tried practically, and the benefit to be derived therefrom would undoubtedly be slight. There is also a question as to whether or not, two atrophied tendons would unite firmly, although from watching the other cases, the author doubts if there would be any trouble on this account. The best results from tendon transplantation are to be obtained in those cases in which one group of muscles has been destroyed, leaving the antagonizing or accessory muscles very little, if any, impaired. This results in a definite deformity which becomes more marked as the age increases. The best illustration of this is to be found in the condition so commonly seen in the foot where the gastrocnemius and the muscles at the inner side of the foot have been destroyed, the peroneal muscles retaining their normal contractility. The result is a valgus which constantly increases, both from the muscular contraction and from the faulty mechanical position in which the weight of the body must be received upon the foot in walking or in standing. This is also seen in connection with the anterior muscles of the foot; the anterior tibial and the extensor pollicis so often being destroyed leaves the peroneus tertius and the extensor communis digitorium, the only muscles to be used in flexing the foot at the ankle. This also results in a valgus which steadily increases. To correct these mechanical conditions and to use the non-paralyzed muscles to the best advantage, the author had operated upon four cases and given the tendons of the muscles new attachments.

Case 1.—A young woman, 19 years of age, who came to the Carney Hospital, October last, complaining of trouble in the left foot. When nine months old she became paralyzed, which partially cleared up, leaving the foot very weak, so that walking has always been difficult. This has been growing worse of late and there has been considerable pain, referred to the inner side of the foot under the inner malleolus. The left leg was one inch shorter than the right. There was marked atrophy of the left calf and the foot was in the position of extreme calcaneo-valgus. In walking, the weight was borne upon the inner edge of the heel, the anterior portion of the foot being turned outward fully 40 degrees with the normal axis of the ankle joint. The posterior muscles were all paralyzed, with the exception of the peroneus longus and brevis, and the tendons of these muscles, instead of lying in the groove behind the external malleolus had been drawn forward so that they rested on the outer surface of the malleolus near its anterior edge. With the tendons in this position the action of the muscles caused extreme valgus and slight flexion at the ankle, instead of extension as should be the case. The anterior muscles were practically normal and, having no posterior muscles to antagonize them, their contraction caused such extreme flexion that the dorsum of the foot rested against the anterior surface of the leg. A short time after this, the patient entered the hospital and the following operation was performed: an oblique incision four inches long was made, so that it crosses the tendo-Achilles about one inch above its insertion into the os calcis. Through this wound the peroneal edges are exposed and divided at about the lower edge of the malleolus. The tendo-Achilles is then freed and the tendon of the peroneus brevis passed under this and attached to the tendon of the flexor longus pollicis. The tendon of the peroneus longus was then attached to the tendo-Achilles, after which the wound was closed, and a plaster-of-Paris bandage applied, holding the foot extended in order to relieve the strain as much as possible from the sutured tendons. One month later, a valgus plate was applied, and this has been worn since.

The method of attaching the tendons to each other is of great importance, and unless they are firmly joined the benefit of the operation is lost. The tendon to which the attachment is to be made is split and the end of the severed tendon, after it has been scored, is drawn through this slit, and securely held by two quilted sutures which are so placed that when tightened the outer tendon is spread out, furnishing a broad surface for union. The result was best shown by the photograph which was exhibited. The valgus has largely been corrected, and what remains is controlled by the plate, so that the tread of the foot in walking is quite normal. As a fair test of the result, during the last five months the patient has been doing general housework and has suffered no inconvenience from the foot.

DR. ROYAL WHITMAN, of New York, read a paper entitled

A STUDY OF THE WEAK FOOT WITH REFERENCE TO ITS CAUSES, ITS DIAGNOSIS AND ITS CURE; WITH AN ANALYSIS OF ONE THOUSAND CASES OF SO-CALLED FLAT FOOT.

The reader emphasized the importance of looking on the foot as a mechanism, and on the flat foot not as a deformity only, but rather as a weak or disabled machine. Attention was called to the function of the normal foot. That it was not only a support, but also a lever. If this activity or leverage was diseased or lost, the foot was subjected to great mechanical disadvantage. He laid particular stress upon the component elements which made up the weak or flat foot. These were: 1, the improper distribution of the weight upon the foot because of the pronation or valgus; 2, the displacement of the line of strain by the abduction of the foot; and 3, the secondary lowering of the arch.

The various predisposing and exciting causes of weakness were enumerated. The importance of the early recognition of the weakness and of the training of children in order that future disability might be avoided; the importance of the proper shoe, both in childhood and in adult life, and the treatment for the various grades of weakness and deformity were then discussed and illustrated by diagrams and casts.

In conclusion, the writer emphasized the following points: flat foot, in its surgical sense, is a compound deformity, of which the elements of valgus and abduction, the improper distribution of the weight and strain, are of vastly greater importance than the depth of the arch. The weak and flat foot can be cured, but only by the application of the simple principles that any mechanic would apply to a disabled machine whose structure and use were known to him; in other words, there can be no permanent cure of weakness and deformity unless normal function is regained, nor effective treatment unless it has this end in view. The term weak foot has at least this advantage, that it implies nothing that the student must unlearn; it is because of the misapplication and misapprehension of flat foot, and because of the associations which have so long obscured the rational treatment of the deformity, that the term has been discarded from the title of this paper.

DR. L. A. WEIGEL, of Rochester, N. Y., contributed a paper on "Metatarsalgia."

ON THE DEFORMITIES AND MALFORMATIONS RESULTING FROM ACUTE INFECTIONS IN BONE.

DR. ROSWELL PARK, of Buffalo, N. Y., read this paper, in which he said that clinically, there are three locations in which bone infections are most commonly met with—beneath the periosteum, in the epiphyses, and in the diaphyses. From the pathologic side, infections are of four main varieties: 1, the tubercular; 2, the staphylococcus; 3, the streptococcus; 4, the pneumococcus. To these may be added rare instances in which other organisms are primarily or second-

arily present. Of these, certainly the more common is the tubercular form, whose manifestations are usually not acute. The other three may be grouped in a general way as pyogenic forms of invasion in which pus is practically invariably produced, providing only that sufficient time has elapsed. The author alluded to the acute miliary tuberculosis of bone which corresponds in most essentials with similar invasions of the lungs, and of which he had seen occasional examples. It is not quite so rapid as the pyogenic forms, and it may take two or three weeks to produce such destruction of bone as to necessitate operation. It stands, therefore, in intermediate position between the acute infections and the slower (usually the tubercular) lesions. Nevertheless, it is sufficiently acute to demand prompt recognition, and when recognized may often be relieved by prompt operative interference. The course of a bone disease will depend first upon the location of the lesion, and secondly upon its character. As showing the relative frequency of parts involved, of thirty cases observed by Kocher the disease occurred thirteen times in the tibia and eleven in the femur. Of ninety-eight cases collected by Leucke and Volkmann, the femur was involved thirty-six times, the tibia thirty-four and the humerus eleven. Disease in the immediate neighborhood of the hip joint is about five times as common as in that of the knee. Comparing epiphyses with diaphyses, and accepting Schede's sixty-seven cases, we find that of twenty-eight cases in which the femur was involved, half of them were in the shaft and half in the diaphysis. In the tibia, of twenty-seven cases only nine concerned the epiphysis; and of seven cases of the humerus, two involved the epiphysis. With regard to necrosis, it concerned orthopedists mainly in this, that it produces in many instances a weakening of the bone which may lead either to fracture, deformity or curvature. Spontaneous fractures of necrotic bone had occurred under the writer's observation, and he remembers one case of necrotic femur which broke as he was lifting the patient upon the operating table. Incidentally, there is danger of cancer in some of these cases, for Volkmann collected thirty-two cases in which old and fistulous passages became the site of epitheliomatous changes, and in which cancer was the final result.

Dr. James Kerr, of Washington, D. C., followed with a paper entitled "Joint Disability Following Fractures."

Dr. R. W. Lovett, of Boston, read a paper entitled

AMBULATORY TREATMENT OF POTT'S DISEASE.

He considered this disease a very grave one, which ought to be treated largely by recumbency during the active stage, for the reason that we recognize that our apparatus is intrinsically imperfect on account of the nature of the problem. If we use apparatus, it seems to him that the proper use would be in a small way to vary the monotony of recumbency. Used in any way, we should remember that the position of the superincumbent weight is a most important matter, and that the chest and head should be thrown as far back as possible. Indeed, we see nature trying to throw the chin into this position continually. We should also remember that the higher up the body or backward pull is made, the less is required, and that when this limitation in the use of apparatus is accepted, its field will be more limited than it is now. The use of traction during recumbency seems to the author an advantage, inasmuch as it adds but little to the discomfort of the child and it manifestly increases the length, which it can only do by diminishing the curvature in the vertebral column.

Dr. A. E. Hoadley, of Chicago, exhibited and described a new

SPINE BRACE.

It was designed and adopted by him for the mechanical support of the middle region of the spine. The range of its greatest utility is the support which it affords to the spinal column between the middle of the lumbar and the middle of the dorsal regions, although its usefulness is not strictly confined to these limits. Inasmuch as the greater number of diseases of the spinal column requiring mechanical fixation occur within this region, its usefulness will be comparatively very great, if found to be efficient. In its simplest form the brace consists of a steel frame, a rigid chest pad and two aprons. The chest pad is adjusted in contour to fit the upper anterior portion of the chest. The pad in length is about three times its width and adjusted transversely, resting immediately below the sterno-clavicular articulations. Its real length, transversely, should be as long as practical without being interfered with by the action of the pectoralis major muscles in the movement of the shoulder. It should be made of sheet metal, hammered to give shape and rigidity, covered and lightly padded. The author then described in detail the component parts of this brace, which he divided into four portions—an upper, a lower and two lateral portions. This brace will be found useful to orthopedic surgeons.

REPORT OF FOUR CASES OF SPONDYLITIS OF THE SECOND CERVICAL VERTEBRA.

A paper was read on this subject by Dr. Reginald H. Sayre, of New York. Three years ago he brought before the Association some cases of spondylitis of the second cervical vertebra, as it happened that within a few months' time four cases came under his observation which presented almost identical lesions, accompanied by very similar deformities. These cases had now been without apparatus to support the head for a number of months. In all of them there was noted a small swelling at the back of the neck, at the level of the first or second cervical vertebra, which in each instance happened to be on the right side of the neck. In each case the chin was directed toward the right side of the body, the right sterno-cleido-mastoid muscle was rigid, the face looked downward, while the left ear was brought much nearer the corresponding shoulder than its fellow. In one instance, the face was deflected so far from the perpendicular as to be almost parallel with the floor, and pressed so closely against the clavicle as to cause an excoriation. The position of the head was in marked contrast to that assumed by patients with torticollis, due to contraction of the right sterno-cleido-mastoid muscle. Motions of the head in any direction were excessively painful, and the patients supported their heads with their hands almost incessantly. In turning to view any object the entire body moved as a solid mass without any rotation of the head. The jaw was opened with great difficulty in all cases. At the present time, all but one case can open their mouths freely, and this case has much more control of the mouth than formerly, and is enabled to swallow with much more ease. In all the cases the chin was so much depressed as to make swallowing difficult. These cases were treated by means of a support which consisted of a pelvis belt with two upright back bars passing upward over the shoulders, and held in position by shoulder straps and an apron. From this an extension rod passed from between the shoulders to the base of the skull, where it joined a rolled metal band passing around the head and secured in position by a forehead strap and a strap passing under the jaw from ear to ear. Universal joints at the back of the neck and between the shoulder blades allowed the adjustment of this apparatus to any position of the head, while the distance between the head and body pieces was regulated by a ratchet and key extension. Three cases at the present time seem practically well, and since the removal of the support, the range of motion of the neck has increased in all directions, and there has been no return of pain.

Dr. S. L. McCurdy, of Pittsburg, described and exhibited a combination traction and immobilization hip joint brace. He said that protection is afforded a diseased joint by either confining the patient in bed, or in some portable appliance or brace that serves the same purpose. Immobilization is afforded by the use of plaster-of-Paris; cuirass of Bauer; portable bed of Phelps, or Bradford and Lovett, or a Thomas hip splint. Traction is of the utmost importance during the early stage to overcome muscular spasm and interarticular pressure, and ultimately to relieve pain, and during the stage of dissolution of bone to prevent shortening and angular deformity. In order, then, to apply traction, as well as immobilization, to the hip joint in disease, the author had devised a combination of the long traction hip splint and the Thomas splint.

Dr. John D. Skeer, of Chicago, (by invitation) exhibited

A NEW SURGICAL SAW,

and made some remarks relative to its use. He said that where there is non-union of the bones after excision of the knee joint, we have conditions that may give rise to any degree of deformity. Any procedure that will prevent the rotation and backward displacement of the tibia, without the interposition of any foreign body between the cut surfaces of the bones, will contribute to the success of the operation. If the tibia were cut off slightly concave and the femur correspondingly convex, the bones would lock together in such a way as to prevent rotation and the backward displacement of the tibia. This method of joining the bones together was first practiced by Dr. Fenwick, of Montreal, in 1868, and published in the *International Encyclopedia of Surgery*. The Doctor used a fretwork saw adapted to a butcher's frame, and states that the "bones should be accurately adjusted, and if they do not fit nicely, saw off a thin slice from either or both

of the bones, and, if necessary, remove thin slices with the cartilage knife."

Objection has been urged against Fenwick's operation, for the reason that pockets have been found between the ends of the bones in which matter accumulated and prevented union. Dr. Skeer apprehends that the pockets and irregular open spaces were made with the narrow saw and the cartilage knife at the time of the operation. He proposes to improve the technique of this operation by making the sections with a concavo-convex saw which he had devised for that purpose, and which cuts a true circle, so that when the cut surfaces of the bones are brought together they will coaptate with mathematical accuracy. The saw blade is nine inches long and two inches broad, curved on the flat with a concavity of one-fourth of an inch.

DR. W. O. PLYMPTON, of New York, read a paper entitled

EXCISION OF THE KNEE AS AN ORTHOPEDIC PROCEDURE.

The success of the operation is no longer an experiment, when performed under right conditions and by a skillful operator, and should not only save limbs but lives. Too much can not be said in favor of early treatment by mechanical and fixation methods in disease of the knee joint. If the profession at large recognized disease of this joint in its incipiency and employed extension and fixation methods of treatment, comparatively few cases would advance so far as to necessitate excision. It is the duty of the orthopedic surgeon who teaches, to lay special stress upon the early recognition, as well as early mechanical treatment, of these diseases. When the fixation and extension plan of treatment has been conscientiously tried and has not arrested the disease which is manifestly on the increase, the surgeon should explore the joint and do whatever the conditions demand, whether to wash out or to excise. When the articular surfaces are destroyed, the bone and the soft parts extensively involved, the joints should be excised. In the series of excisions which the author reported, there were several examples of great destruction from osteomyelitis and tubercular disease where amputation was avoided and several inches saved to the length of the limb by allowing the cavity to fill and the clot to organize. In one case of osteomyelitis seven inches of bone were reproduced. In determining what operation for excision of the knee best subserves the requirements, it may be said that that method which allows of the most complete removal of all diseased tissue and affords perfect drainage, retains the parts in best apposition and fixes the bones without the use of pins or wire and last, but not least, the one that can be done with the greatest ease and rapidity is to be preferred. Fenwick's operation fulfills all requirements with a few exceptions. Where the head of the femur is destroyed, precluding the section according to Fenwick, Phelps had devised a method to meet this condition by sawing a wedge-shape at the end of the femur and a V in the tibia for its reception. The length of time taken for excision of the knee is an important element with regard to the mortality of the operation, as the shock of the operation in excision of the knee must of necessity be profound. The author said that Dr. Phelps, on an average, did not consume more than fourteen and one-half minutes in excisions of the knee, except in exceptionally bad cases. He had seen him do an excision in ten minutes from the time the first incision was made until the last plaster bandage was in place.

DR. A. J. STEELE, of St. Louis, exhibited an apparatus for the treatment of club foot, and two contrivances to be used in head traction and in hip traction.

DR. LOUIS A. WEIGEL, of Rochester, N. Y., read a paper entitled

MECHANICAL SUPPORT IN THE TREATMENT OF SCOLIOSIS.

The author first dwelt upon the various theories as to the etiology and pathology of the affection, the various objections to supports, etc. When a bony distortion has taken place of slight degree, we can easily understand that the superincumbent weight falling upon an inclined plane must of necessity increase the deformity, and any plan of treatment which will endeavor to relieve the spine of this adverse factor is certainly a rational one. The author believes (and says he is in a position to prove) that mechanical support may be worn for an indefinite length of time without producing atrophy, and that in spite of an appliance, exceedingly good muscular development may be secured. If this can be shown, the principal objections against appliances will be done away with. The author believes that a mechanical appliance can be used with as much benefit and be made to do its work and be worn as comfortably on the back as on the legs.

The following officers were elected:

President—Dr. Royal Whitman, of New York.
First Vice-President—Dr. George W. Ryan, of Cincinnati.
Second Vice-President—Dr. Joel E. Goldthwait, of Boston.
Secretary—Dr. John Ridlon, of Chicago.
Treasurer—Dr. E. G. Brackett, of Boston.
Place of meeting, Buffalo; time, third week in May, 1896.

ASSOCIATION NEWS.

Rush Monument.—The following circular has been issued, but through some inadvertence has not been printed in the JOURNAL. There is still time for remittances, according to Dr. Rohé:

AMERICAN MEDICAL ASSOCIATION, RUSH MONUMENT COMMITTEE.

BALTIMORE, MD., July 1, 1895.

Dear Doctor:—I beg leave to remind you that at the recent meeting of the AMERICAN MEDICAL ASSOCIATION in this city the following resolution, offered by Dr. J. W. Hoff, of Ohio, was unanimously adopted:

Resolved, That each delegate to this ASSOCIATION be appointed a committee to collect funds for the Rush Monument from fellow-practitioners, and transfer the amounts to the Treasurer of the Committee on Rush Monument at as early a day as practicable.

In virtue of this action of the ASSOCIATION, you are constituted a member of this committee. I am sure I need not urge upon you the necessity of energetic action. If the hearty interest manifested at the Baltimore meeting can only be sustained a little while, the object for which the committee has so earnestly labored during the past ten years will be attained.

It is hoped that at the next annual meeting of the ASSOCIATION the committee may be able to report that the amount needed to erect the proposed monument to Benjamin Rush is in hand. Will you not do all in your power toward the accomplishment of this object?

Remittances may be made by check or money order, to the undersigned. Very truly yours,

ALBERT L. GIHON, Chairman.
GEORGE H. ROHE,
Secretary Rush Monument Committee.
Catonsville, Md.

THE RUSH MONUMENT FUND.

BALTIMORE, Sept. 23, 1895.

To the Editor:—The sum total of the Rush Monument Fund to date amounts to $3,357.39. Among the recent contributions are the following:

Prof. Nicholas Senn, Chicago	$100.00
Dr. Geo. M. Gould, Philadelphia	5.00
Dr. Franklin B. Ferguson, Deer Island, Me	2.00
Dr. Andrew Annan, Emmitsburg, Md	50.00
Dr. Jacob L. Williams, Boston	1.00
Medical Society Wayne Co., New York (through Dr. D. S. Colvin)	10.00
Dr. J. R. Buist, Nashville, Tenn	5.00
Dr. John B. Hamilton, Chicago, (3d contribution)	1.00
Dr. Geo. N. Acker, Washington, D. C.	1.00
Surgeon-General Geo. M. Sternberg, U. S. A.	10.00
Eastern Ohio Medical Association (through Dr. J. C. M. Floyd)	10.00
Dr. W. H. Marsh, Solomons, Md	1.00

Further contributions will be acknowledged in these columns. Very truly yours, GEORGE H. ROHE,
Secretary and Treasurer Rush Monument Committee.

To Raise Bread and Diphtheria in the Same Bed.—The city physician of Rochester, Dr. Seitz, while visiting a house on Caswell Court, an over-populated street, recently, discovered that a pan of dough had been placed to rise in the bed of a boy, ill of diphtheria. A quilt was thrown over the patient and the dough. There are four other children in the family.

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MEMBERSHIP IN THE AMERICAN MEDICAL ASSOCIATION.

This is obtainable, at any time, by a member of any State or local Medical Society which is entitled to send delegates to the Association. All that is necessary is for the applicant to write to the Treasurer of the Association, Dr. Henry P. Newman, Venetian Building, Chicago, Ill., sending him a certificate or statement that the applicant is in good standing in his own Society, signed by the President and Secretary of said Society. Attendance as a delegate at an annual meeting of the Association is not necessary to obtain membership.

On receipt of the subscription the weekly JOURNAL of the Association will be forwarded regularly.

Gentlemen already members of the Association should send their annual subscription to the Treasurer, or direct to the JOURNAL office.

All communications and manuscript of whatever character, intended for publication in the JOURNAL, should be addressed to the *Editor*, and all communications relative to the business of the JOURNAL, proof sheets returned, or in regard to subscriptions, should be addressed to THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, 86 Fifth Avenue, Chicago.

SATURDAY, SEPTEMBER 28, 1895.

THE PATHOLOGY OF THE PARTIAL NEURASTHENIAS.

The discoveries in the finer structure of the nervous system, the resulting modifications in our views as regards its physiology, the recognition of the fact that nerve action is in the centers effected, not by continuity of the nerve cell and fiber, but by their contiguity, have revolutionized our ideas as to the pathology of a large number of disorders of which the anatomic lesions have so far evaded us. Adding to this, the hardly less important discovery by our countryman HODGE, of the effects of fatigue upon the nerve cell itself, we have a rational pathology suggested for nearly all the so-called functional disorders of the nerve centers, neurasthenia and insanity included. This fact is largely recognized by the authors of the most recent general work on nervous diseases, which in this respect is in advance of all its predecessors.

While to a large extent this pathology is, and must be only theoretical, it is a decided gain over our former agnostic condition in this regard. It is an advance to have a rational theory, and the possibilities in this direction are hereby infinitely increased. Taken in connection with the researches now being made upon the effects of various toxic agencies upon the neuron, these discoveries enable one to give a reasonable and possible explanation for almost or quite every general "functional" disorder of the nervous system.

With the theory of cortical localization carried a little beyond our actual acquisition of facts, we have also an explanation, by these discoveries, of the partial neurasthenias, the special dyskinesias, etc., which has been hitherto lacking. Writer's cramp, for example, and the other occupation neuroses, together with much of the special disorder sometimes attributed to eye strain may, perhaps, be better accounted for by assuming a fatigue and derangement of the nerves of special functional centers, sometimes even without any extensive implication or participation of other nerve elements. The more complex and specialized the function disordered, the more rational can this explanation be made to appear. For example, BIANCHI has recently described a new type of partial neurasthenia (anagnosiastenia) in which distress is experienced from every attempt at reading, while general health, intellection and the use of the eyes for other purposes may be altogether uninterfered with.

This condition may reach absolute disability as far as reading is concerned, without any impairment of efficiency in other directions. The cerebral mechanisms involved in the act of reading are infinitely more complex than the peripheral, and it is as easy to suppose that their fatigue or insufficient reparative power may induce neuralgic discomforts in this case as in writer's cramp, where a peripheral pathology has never been extensively accepted, and in which we must therefore attribute a purely central origin to the pain.

Other professional neuroses than writer's cramp readily fall under the same law, and as much can probably be said of the other partial neurasthenias, the disabilities for mental or physical exertion which may exist separately, and many others that are possible and undoubtedly sometimes occur. They all find their best explanation in the fatigue and more or less permanent exhaustion of the neuron, of which the associated anatomic condition has now become known to us.

MEDICAL TEMPERANCE.

It has been apparent for some time that medical men can not ignore and stand aloof from the great revolution in public sentiment concerning alcohol used indiscriminately as a medicine and as a beverage. During the past year, not only in this country, but in Europe, the center of wine drinking, most startling innovations and changes have been proposed. In this country only two societies of medical men have taken up this topic. One, the Association for the Study and Cure of Inebriety, organized in 1870, for the exclusive purpose of studying the causes, conditions and means of treatment of inebriates; and the other, organized in 1891, called the Medical Temperance Association, whose special object is to promote investigation as to the action of alcohol in health and disease. Both of these societies discuss the medical side of the topic, and are in no way identified with any popular movements of the day. In England there are two societies studying along the same lines. In France, Italy, Switzerland, Ger-

many, Holland, Norway and Belgium, there are societies of medical men who discuss all phases of the alcoholic topic. In 1878 these societies joined with philanthropists and reformers in holding international conventions. From that time, at intervals of two or more years, meetings have been held in which leading physicians have not only presided, but taken a prominent part in the papers and discussions. The last of these congresses has just closed at Basle, Switzerland. Some idea of the medical interest of this meeting may be had from the fact that seventy-eight medical men were registered as members and delegates. Twenty-one were superintendents of asylums, sixteen were teachers of mental diseases, and twenty-nine were professors in medical colleges, and on health boards.

The papers read by these men were on the effects of alcohol on the body. Two of them related to some very striking experiments made in the Heidelberg University laboratory, on the physiologic action of small doses of alcohol upon mental processes. All the papers read were scientific and did not touch the moral or ethical side of the subject.

In France, all the leading medical societies have taken up the alcoholic question with unusual interest and spirit, and many very important and original studies have been made. The French government has appointed a commission to investigate the causes of the fatality from the use of spirits. The French Medical Temperance Society has been engaged in studying the different effects of alcohol on the body for some time.

In England, the Society for the Study of Inebriety, has for years been urging legal measures of restraint, with unusual success. The disease of inebriety has been recognized and parliament has passed laws for the organization of asylums and the control of these cases. The Medical Temperance Society has investigated alcohol in various ways, and brought out many new facts of great practical value. They have been largely instrumental in showing the folly of the beer ration in almshouses and asylums, and calling in question the indorsement of alcohol in medicine and as a beverage.

Leading medical men of worldwide reputation, both on the continent and in the British Isles, have taken up this subject fearlessly, and identified themselves as students and investigators, irrespective of public opinion, while in this country there is a strange shrinking from investigation or expression of personal convictions that are antagonistic to current opinions.

The two societies in this country who are working along this line have attracted very little attention medically, although the literature published in the *Journal of Inebriety*, by the Association for the Study and Cure of Inebriety, has attracted a great deal of interest in Europe, and many of its articles have appeared in all the leading journals. The other society, the Medical Temperance Association, has presented some original work already, and is closely following along the most advanced lines of research concerning alcohol.

In Europe, the philanthropists and reformers are turning to the medical men for help and aid. In this country physicians stand aloof in an attitude of indifference and criticism. This should not be. Every medical man should recognize that the so-called temperance problem, which includes a knowledge of the nature and action of alcohol on the system, and the question of the causes and remedies of inebriety is a medical question to be settled by physicians.

The noise and roar of agitation rarely brings out facts as to the solution of great problems. It is the still small voice of science that must come from physicians, that will point out the means of relief from this evil. Physicians in this country, with few exceptions, are far behind medical men abroad in the interest and study of the alcoholic problem. This is remarkable, in view of the intense mental activity of American physicians and the freedom from entailments of custom that surround them.

The two societies, the Association for the Study and Cure of Inebriety, and the Medical Temperance Association, should be the most popular special medical associations in the country. They should be centers for the scientific study of this question, that would not only lead but direct public opinion.

Last year a voluntary gathering of teachers, leading business and literary men, with a few physicians, joined to make a scientific study of this subject. The confused outline work which was projected, clearly revealed the impossibility of any practical results, except along medical lines, by hardworking physicians. The absurdity of laymen and emotional reformers, going round the country teaching the physiologic action of alcohol, and the assent of medical men by silence, is apparent everywhere. The popular literature on this subject scattered broadcast, and the contradictory theories repeated in medical text-books as if they were absolute facts, are simply deplorable. In no other topic of like interest has there been so little respect for facts, or so little effort to find the truth.

This alcoholic problem is vital in every community, and physicians are the true teachers and they should investigate it in the same way that germ diseases are studied. We have recently published a number of papers read before the Section on State Medicine on this subject, and we heartily commend it, as one of the great outlying fields of medicine that must be occupied by practical medical men before its solution can be reached.

STATE CARE FOR THE INSANE.

The progress of "State care" in New York will, on October 1, pass another mile-stone. The insane of Kings County will, on that date, cease to be under the charge of the old board of county commissioners, and will be transferred to the State Commission in Lunacy. Salaries of the medical corps have been raised, and the employment of a female physician has been provided for. Under the law authorizing this transfer it has been stipulated that the present staff of officers should continue to hold their positions during "good behavior," that is to say, they are removable only for cause.

When this transfer shall have been made, there will then remain only the insane of New York still outside of State care. That county would probably have already fallen into line with the rest of the counties of the State had it been possible to settle certain questions relative to tax appropriations. There is a strong probability that an act will be passed by the next Legislature that will make it easy for New York County to adopt the State care, under which the hospitals become such in fact as well as in name. The insane under this change of systems, are cared for honestly and there is little room for petty thievery in contracts. The eyes of the State officers as well as of the local managers, are directed alike to the interests of economy and to the welfare of the patients; whereas, under the older system the business of awarding contracts, that would appear straight while being crooked, was that in which the officers excelled.

NEW MASSACHUSETTS LAWS RELATIVE TO COMMITMENT OF THE INSANE.

Chapter 429 of the Acts of Massachusetts of 1895 provides that no person shall be committed to a lunatic hospital, asylum or other receptacle for the insane, unless, in addition to the oral testimony given, there has been filed with the judge hearing the complaint or other proceedings for the commitment of the person alleged to be insane, the certificate of two physicians certifying to such person's insanity, made in accordance with the provisions of Section 1 of Chapter 286 of the Acts of 1895. This latter provides that in any hearing in any proceeding for the commitment for proper treatment of any person alleged to be insane, to a lunatic hospital, asylum or other place provided by law, no one shall be qualified as a physician to make to a judge at such hearing a certificate of the insanity of a person unless he shall make oath that he is a graduate of a legally chartered school or college; that he has been in the actual practice of his profession in this Commonwealth as a physician for at least three years since his said graduation, and for the three years next preceding his making said oath; nor unless he is duly registered in compliance with the law of 1894, and continues to be so registered; nor unless his standing, character and professional knowledge of insanity is satisfactory to such judge.

Each certificate bearing date more than ten days prior to any commitment of any person alleged to be insane shall be null and void, and no certificate shall be valid or received in evidence if signed by any physician holding any office or appointment in or connected with the hospital, asylum or other place for the insane to which the person in question may be committed by the order of the judge. Every physician certifying as herein provided must himself have examined the person alleged to be insane, within five days of his signing the certificate, and every such physician shall state in said certificate that in his opinion said person is insane and a proper subject for treatment in an insane hospital or asylum, and shall specify the facts on which his opinion is founded.

A copy of the certificate, attested by the judge, shall be delivered by the officer or other person making the commitment, to the superintendent of the hospital or other place to which the person shall be committed, and shall be filed and kept with the order of commitment. And a copy of each physician's certificate of insanity required under the provisions of this act shall be mailed to the State Board of Lunacy and Charity by the superintendent of each lunatic hospital and asylum, within forty-eight hours after the commitment of each person adjudged insane.

HYPNOTISM AS A MORAL FORCE.

Word comes to us from Utah that an attempt is there being seriously made, presumably under the local governmental auspices, to reform criminals by hypnotism. Evil is to be eradicated and moral tendencies instilled into the criminal by passes and suggestions; whether the criminal has a will to be moral or not, he is to be made so. On the other hand, there comes from Germany the proposition to cure sexual perverts by the same means, but the foreigner is either less hopeful or more immoral, in that he proposes to substitute a less repulsive style of immorality for the existing tendencies of the subjects. He is perhaps a little less extravagant, if he is also less respectable in his ideas than the Utah practitioner, but it is hard to see why they are not almost equally irrational.

Hypnotism ought to be understood by the people and by medical men in particular, if the amount of literature on the subject could enlighten them, but there still seems to be a widely spread superstition which a few in the profession seem to share, that there is an occult force in the hypnotizer which his victim can not resist. And hypnotism as a moral force, usurping the place of training and religion is comparatively a new extension of the superstition.

THE SOCIETY OF AMERICAN OBSTETRICIANS AND GYNECOLOGISTS.

This active and energetic society held its annual session in Chicago this week, under the Presidency of DR. J. H. CARSTENS, of Detroit. The proceedings which were varied and interesting, will be published in our next issue.

The entertainments included an excursion on the Lake, given by PROFESSOR J. B. MURPHY, and the annual dinner of the Society at the Union League Club. The speeches at the dinner were by DRS. POTTER, MCMURTRY, MCDONALD; ROSS of Toronto; TAYLOR, HAMILTON, LYDSTON, MARTIN and DUDLEY. MR. EVANS of New York, gave some character songs which were well received.

A telegram was sent the venerable ROBERT BATTEY, of Rome, Ga., expressive of the sympathy of the Society, the Chicago Gynecological Society, and the invited physicians there present, with him in his illness and their best wishes for his speedy recovery.

DR. JOSEPH PRICE, of Philadelphia, was elected President; A. H. CORDIER, of Kansas City, Vice-President, and W. W. POTTER, of Buffalo, Secretary.

Richmond, Va., was chosen as the next place of meeting on Tuesday, Sept. 2, 1896.

EXCELLENT APPOINTMENTS.

The Commissioners of Cook County, Ill., have at last yielded to the voice of the medical profession and the public, and appointed a competent board to supervise matters at the County Hospital for the Insane.

Let us trust that the Commissioners will have the good sense to follow this up, by the appointment of a medical man as resident superintendent. DRS. RICHARD DEWEY, SANGER BROWN and ARCHIBALD CHURCH are named as the board, to have supervisory control over the medical affairs of the hospital. It has been stated that the absence of DR. DEWEY will probably prevent his acceptance, but there is no dearth of good timber in Chicago. There are to be two resident assistants selected under civil service rules. The order of the Commissioners is elsewhere printed.

ARMY MEDICAL BOARD.

A board for the examination of candidates for admission to the Medical Corps of the Army has been called by SURGEON-GENERAL STERNBERG, the text of which will be found in the Public Service column.

CORRESPONDENCE.

The Doctor in Politics.

Sept. 24, 1895.

To the Editor:—The opinion held by some physicians that the medical profession should take a more prominent part in political affairs has received a new impetus from the recent meeting of the County Central Committee of Cook County, Illinois. The story told of the sanguinary encounters between members of that committee has led to the suggestion that hereafter a surgeon should be appointed to attend all meetings of the "business" men who control the destinies of one of the great parties in the second city of our great Republic.

The story of how one MR. GOODMAN, of Evanston, had his nose broken by the HONORABLE "BUCK" MCCARTHY, alderman, and the heroic deeds of this doughty champion in producing bruises on the face of the HONORABLE "JO." LAMMERS, also an alderman, and enucleating the eye of that worthy by the effective and simple process technically known as "gouging," has also stimulated the surgical instrument trade to a considerable extent. It is understood that in the enucleation of the eye of the HONORABLE "Jo." LAMMERS, the HONORABLE MR. MCCARTHY did not use scissors or scalpel but with due regard for the prevention of hemorrhage, tore through the conjunctival mucous membrane with his right index finger. It is also stated in the press dispatches that no regard was paid to the modern teachings of antiseptic surgery, and that although preparations for the operation on the aldermanic eye had lasted for some time with the doors of the operating room closed, even the trained nurses engaged by the committee were denied admission. What ever credit, therefore, may attach to the operation *per se*, it is discreditable to the intelligence of a great city that such important surgical operations should be intrusted to an illiterate alderman from the stock yards district, such as we understand the HONORABLE "BUCK" MCCARTHY to be.

There is no question but such aldermen accurately represent the refinement of their constituents, for this is a free city, and everybody may vote at the primaries and at the polls. A gum-chewer, with a fog-horn voice, we send to Congress, because he represents fully our ideas of polite elegance and oratory. A bruiser who keeps a saloon we elect to our city council, because we believe in physical culture, and in his ability to legislate for the general good of the public. A Council composed of such worthies we return every year, because we think "business" men should always be preferred to legislate on the public health, over any physician. It is clear, Mr. Editor, that such is the opinion of our physicians, and as well of the clergy, or else it would not happen. It is said that the downfall of the Roman Republic began with the indifference of the leading citizens in regard to its political affairs. We do not believe this, for our profession is as patriotic as any, and we, by our silence, give full consent to any thug who wishes election to receive it. We must, in fact, accept the fact as it stands, that as a profession we prefer a scoundrel in our legislative halls, otherwise we would try to prevent it. Let us not, Mr. Editor, try to delude ourselves, as you seem to be constantly trying to do, into the belief that we, as a profession, do not like to be represented by the persons we send to our City Halls, our Legislatures, and our Congress.

SENEX.

Post-Nasal Hypertrophy.

MINNEAPOLIS, MINN., Sept. 20, 1895.

To the Editor:—I wish to acknowledge through the JOURNAL, my appreciation of the article entitled, "Post-Nasal Hypertrophy in Its Relation to Hay Fever and Other Diseases," by W. H. Weaver, M.D., of Chicago, Feb. 9, 1895.

In my estimation this article contains the most valuable contribution to the treatment of all those forms of nasal disease characterized or accompanied by intumescence, which has been given to the profession in the past ten years. Dr. Weaver recommends that the posterior (nearly always enlarged) extremities of the lower turbinates be snared, or with a bent probe cauterized with chromic acid, in order to destroy the sensitive terminals of the nerve supply to "Mackenzie's sensitive area," including the posterior ends of the lower turbinates and the surface of the septum opposite.

course we have all snared the posterior growths when we ould engage them in our loops, and failing, have deeply nterized with galvano-cautery, and still our patients have mplained that they were not cured.

Dr. Weaver's recommendation seemed so rational that I once adopted it, and have been so well pleased with reults that I now seldom use, or have need to use, my cauery. Since the date of publication of Dr. Weaver's paper, eb. 9, 1895, I have done the operation (applying chromic id to the posterior extremity of a lower turbinate) sixtyo times in thirty-eight private patients, whose records are adily accessible and who for the most part had had no evious galvano-cautery treatment. Beside these, I have eated in like manner perhaps an equal number, who after e regulation snarings and deep cauterizations have still turned for further relief. The results have been incomrably better than by the galvano-cautery. The pain and ock are much less, there is almost never any inflammatory action sufficient to cause occlusion of the naris, and the lief is immediate and as permanent as more destructive ethods will give. Since using this method I find much less ecessity for snaring posterior growths, and where I have ared large growths I have found the benefit more than ubled by a subsequent application of the chromic acid. I nd, further, that the efficient application of this method viates the old time necessity of "tacking down" the anrior and middle regions of the lower turbinates, certainly a large majority of cases.

And now a final word as to the application of the method. aving the lower turbinate well cocainized, the acid is fused pon one side only of a properly bent applicator, passed ck through the naris, carefully applied to the whole posrior extremity of the lower turbinate, and withdrawn without touching innocent parts. The nares are then flushed horoughly and as promptly as possible with *a pint or more f soda water*. Then a drying powder containing antipyrin, nd an oil spray. The patient seldom sneezes, and after an our the slight discomfort in the nose is usually gone. To se merely an alkalin *spray* after such an application of hromic acid is to be guilty of malpractice.

EDWARD J. BROWN, M.D.

Coca Cola Statistics.

63½ WHITEHALL ST., ATLANTA, GA., Sept. 21, 1895.

To the Editor:—Desiring to find to what extent coca cola abitues are developed by the use of coca cola as a drink, I ddress this card to the medical profession, hoping that it ill receive a ready response by any physician who has reated such cases. In replying, please state age of patient, ex, and amount drank daily.

Hoping some good may result from such a collection of ases, I am, Yours respectfully,

R. R. KIME, M.D.

BOOK NOTICES.

The Index Catalogue of the Library of the Surgeon-General's Office. Authors and Subjects. Volume XVI. W. ZITHUS. Washington, D. C. Government Printing Office. 1895.

This volume completes the alphabet, and is therefore the final volume of the first series of this incomparable work. We learn from a letter transmitted by Deputy Surgeon-General John S. Billings that "the manuscript of a second series, including all the titles of books and articles received too late for insertion in the first series, has been prepared, and will probably make some five printed volumes of the same size and style as those constituting the first series. An appropriation for printing volume I, of the second series, has been granted by Congress, and the work will therefore proceed without interruption, the manuscript for the first volume being now nearly ready for the press." The library of the Surgeon-General's office now contains 116,847 books, and 191,598 pamphlets. This volume contains a list of contributors to the library, government societies, corporations and individuals who have given numerous contributions. There is also found *corrigenda* of the entire sixteen volumes.

In mentioning the completion of this book, we desire to congratulate Dr. Billings, Dr. Fletcher and their coadjutors, and to say that so far as we are able, we feel sure we voice the expression of the entire ASSOCIATION when we say that no aid to American medical literature has been so important as this, since the foundation of the country. The teacher and the writer, and scarcely less the general practitioner, must turn to this great catalogue when in search of the literary treasures of the past, bearing on whatever subject he is especially interested in, and no one more than the medical editor knows how extremely valuable this Index is for reference. We are obliged to consult this work nearly every issue of the JOURNAL, to verify spellings and dates. It is also with pleasure that we note the continuation of the Index and the practical completion of its first volume.

Practical Dietetics, WITH SPECIAL REFERENCE TO DIET IN DISEASE. By W. GILMAN THOMPSON, M.D. 8vo., with pp. 802. New York: D. Appleton & Co. 1895.

To the members of the medical profession connected with hospitals, and especially those in the Government service, it has long been a source of astonishment that the profession in general paid so little attention to dietetics in the treatment of disease, as in the hospital service the diet is prescribed with the same regularity as medicines or drugs. Nor has medical literature, generally, given the subject of diet as much attention as its importance warrants, and this book will therefore go to the profession as one conveying information on a nearly new subject. We can not too highly commend the study of dietetics. For that purpose the volume under consideration is perhaps one of the best of modern works on this subject. The contents of the volume are included in nine parts and an appendix. Part I, Foods and Food Preparations, which refers to the composition, classification, force-producing value, etc. It includes both vegetable and animal food and the detection of adulterations in classes of food mentioned. Part II is given to the study of Stimulants, Beverages, and Condiments. Part III, Cooking, Food Preparation and Preservation, and Quantity of Food required. Part IV, Foods Required for Special Conditions. Part V, Food Digestion and conditions which specially affect digestion. Part VI, General Relation of Food to Special Diseases which are caused by Dietaries. Part VII, Administration of the Food for the Sick. Part VIII, Diet in Disease and Diet in Infectious Diseases; diet in diseases of the respiratory system; diet in diseases of the circulatory system and blood; diet in diseases of the alimentary canal and diseases of the intestine, disease of the liver, of the nervous system, skin diseases, and a discussion of the diseases especially influenced by diet. Diet in miscellaneous diseases; diet for surgical patients. Part IX, Rations, Dietaries, giving the Army and Navy rations, as well as the U. S. Prison ration, various hospital dietaries, etc.

In the appendix will be found recipes for invalid food and beverages suitable for fevers, convalescence from acute illness, beverages of all kinds, beef preparations, broths and soups, meat, milk and eggs, farinaceous and gelatin preparations. With this book one may manage very many affections without the use of drugs of any sort.

The chapter on Milk is one of the most valuable in the book.

In regard to the treatment of obesity, which the author describes in detail, he speaks of the different systems, but says: "Nearly all of these systems agree in two particulars: 1, to reduce the total quantity of food ingested as much as possible, without impairing the strength of the patient; 2, to diminish the amount of fluid drunk, by prescribing what is called a dry diet. The treatment, moreover, is usually combined with systematic exercise or bathing, and it is highly important to keep the bowels active. Lean meat should form the basis of all diet. A non-restricted flesh diet may give rise to dyspepsia, gastric and intestinal catarrh. Soups of all kinds should be forbidden, as well as alcoholic

beverages, and what little fluid is allowed should consist of plain or ærated water. Highly succulent fruit, such as watermelons; vegetables, like raw tomatoes, which consist largely of water, should not be eaten. Sugar should be absolutely forbidden, and fat must be used very sparingly, and only in the form of a little butter. The allowance of farinaceous food must also be cut down as much as possible." As near as we can understand, the author's general directions are to eat and drink as little as possible, which would seem to be a very practical way of diminishing corpulence.

Green's Pathology and Morbid Anatomy. PATHOLOGY AND MORBID ANATOMY. By T. HENRY GREEN, M.D., Lecturer on Pathology and Morbid Anatomy at Charing-Cross Hospital Medical School, London. Seventh American, from the eighth and revised English edition. Octavo volume of 595 pages, with 224 engravings, and a colored plate. Cloth, $2.75. Philadelphia: Lea Brothers & Co., Publishers, 1895.

This well-known text-book comes to us in a new edition, enriched with sixty new engravings, and will be found more than ever worthy of the favor with which former editions have been received. The radical changes that have been made in the study of pathology by the discovery of bacteria have necessitated the rewriting of all the books on pathology in the last fifteen years; the newness of the field makes discovery an almost everyday matter, and in consequence a text-book to be kept up to date must be revised almost every year. We have examined with some care the present volume and find that Dr. Murray has incorporated the latest bacteriologic studies in this edition. It is to be regretted that the publishers do not use more colored illustrations in the illustration of specimens requiring staining, in order that the natural color as seen by the student may appear. It is this that makes the value of such publications as that of Woodhead and others, and its adoption in Green would add very much to its usefulness.

Clinical Lectures on Diseases of the Nervous System. Delivered at the National Hospital for the Paralyzed and Epileptic, London, by W. R. GOWERS, M.D., F. R. S. 8vo., pp. 279. Philadelphia: P. Blakiston, Son & Co. 1895. Chicago: E. H. Colegrove & Co. Price, $2.

These lectures have been reprinted from various English medical journals with the exception of two, which were printed in the *International Medical Magazine*, of Philadelphia. There are twenty lectures in the series, as follows: Principles of Diagnosis of Diseases of the Nervous System; Mistaken Diagnosis; Argyria; Syphilitic Hemiplegia; Bulbar Paralysis; Facial Paralysis; Facial Contraction with Palsy; Acute Ascending Myelitis; Locomotor Ataxia ½; the Foot Clonus and its Meaning; Syringomyelia; Treatment of Muscular Contraction; the Infantile Cause of Epilepsy ½; Neuralgia, Lead Palsy, Saturnine Tabes; Optic Neuritis, ½.

The authoritative position of Gowers and his international reputation make it a work of supererogation for the reviewer to commend anything to which his name is attached, but while we commend the lectures and pay due deference to the great master who has prepared them, we extremely regret that there is no index in the volume, which is otherwise admirably printed. The illustrations might have been more frequent, if it is intended to be placed in competition with the French books on the subject.

Indurative Mediastino-Pericarditis. By THOMAS HARRIS, M.D., London. Reprinted from the *Medical Chronicle*, 1894–95. Imperial 8vo., pp. 67. London: Smith, Elder & Co. 1895.

The popularity of this article was such that its republication was considered desirable, so as to place it in permanent form as a monograph on this subject. The author of the term, indurative mediastino-pericarditis, is Kussmaul, whose original article appeared in the *Berliner Klinische Wochenschrift*, for 1873. These cases are those in which great difficulty of diagnosis is presented clinically and "where at the autopsy there is found an adherent pericardium with an increase of fibrous tissue in the mediastinum. The increased mediastinal tissue is united to the external surface of the pericardium, and both it and the pericardium are united to the left and, may also be to the right lung." The author has appended an extended bibliography to the monograph and has made a collection of twenty-five cases.

Hayem and Hare's Physical and Natural Therapeutics. PHYSICAL AND NATURAL THERAPEUTICS. The Remedial Use of Heat, Electricity, Modifications of Atmospheric Pressure, Climates and Mineral Waters. By GEORGE HAYEM, M.D., Professor of Clinical Medicine in the Faculty of Medicine of Paris. Edited with the assent of the author, by HOBART AMORY HARE, M.D., Professor of Therapeutics in the Jefferson Medical College of Philadelphia. In one handsome octavo volume of 414 pages with 113 engravings. Cloth, $3. Philadelphia: Lea Brothers & Co., Publishers. 1895.

Dr. Hayem, the author, is not only Professor of Clinical Medicine in the Faculty of Medicine of Paris, but is also the editor of the *Revue des Sciences Medicales* and, as such, he is well known on both sides of the Atlantic.

This book will be found very useful to practitioners, not only as a work of general information on the subject, but for reference in the treatment of cases in which the benefits of mineral waters or change of climate is desired. Dr. Hare, who has edited this book, has so clearly set forth its objects and aims in the preface that we quote it: "Every practicing physician constantly sees cases which should be sent to health resorts and thereby gain the benefits of mineral waters or of change of climate." He sets forth clearly remedial measures, such as the application of heat and cold baths, and says that "electricity will be of greater advantage to the patient than the administration of drugs. Information concerning such resorts and methods has been scattered in a fragmentary way, and as a result they have been too much ignored. The object of the book is to provide in a concise form just what the physician needs in this respect." . . . "Written by one of the foremost therapeutists of the day in Europe, it embodies not only his own views but also those held by Benibard, Fleury, the brothers Delmas and Winternitz in the chapter on thermic agents; von Vivenot, Lombard, H. Weber and Lindsley in the chapter on air therapy, and climate, and by Durand, Fardell, Leichtenstern, Lebret and Rotereau on mineral springs. In the portion devoted to electricity, the views of standard writers are linked with those of the author. It has been the aim of the editor to render the text applicable to the needs of the American physician, particularly by the addition of article on American climates and mineral springs."

The contents of the volume are as follows: Atmospheric Pressure as a Therapeutic Agent; Climate; Thermic Agents; Hydrotherapeutic Measures; Mineral Acids; Electricity. Nearly one-half of the book is devoted to electro-therapeutics and is a very fair epitome of the subject, although very much inferior in scope to the larger books such as Bigelow and others. As a luminous and philosophical presentation of the matters treated in the work, we take pleasure in commending it.

A System of Surgery by Various Authors. Edited by FREDERICK TREVES, F.R.C.S. Vol. I, with 2 colored plates and 463 illustrations. 8vo., pp. 1,152. Philadelphia: Lea Bros. & Company. 1895.

This is an English surgery, so far as surgery may now be said to belong to any particular country, for the writers are all Englishmen, and it is evidently intended to be a correct exposition of the national views and methods of treatment of this important branch of medical knowledge. The names of the authors are a sufficient guarantee of the authoritative character of the work. The contents comprise an article on surgical bacteriology, by German Sims Woodhead; inflammation, suppuration, ulceration, gangrene, syncope, shock, wounds and contusions, by Dr. Watson-Cheyne; erysipelas, pyemia, tetanus and tetany, by C. B. Lockwood; burns and scalds, by Lockwood; military surgery, by Surgeon-Major Andrew Duncan; anesthetics, by Frederick W. Hewitt; surgical diseases due to microbic infection and parasites, by George Henry Makins; and rickets, by the same author; syphilis, gonorrhea, and diseases of the skin, by Jonathan Hutchinson Jr.; tumors, by J. Bland Sutton; injuries and diseases of blood vessels, including aneurysm, and diseases of the jaws, by A. Pearce Gould; injuries and diseases of the lymphatics, by John H. Morgan; injuries and diseases of nerves, by Anthony Bowlby; injuries of bones, by Stanley Boyd; diseases of bones, by H. H. Clutton; injuries of the

ints and dislocations, by A. Marmaduke Shied; diseases of e joints, by Arthur E. Barker. The following are by the itor, Frederick Treves: the influence of constitutional nditions upon injuries; tuberculosis; hemophilia, and rsteria in its surgical relations.

In the main, the illustrations are new. Some of them are colored plates, mostly well executed, and in a great many stances are from drawings or photographs of specimens in e British Museum or original cases. The work is brought to date and is a fitting companion to the large work of r. Treves on operative surgery, with which the American rofession are already familiar. In this book the actual details involved in operative procedures are not especially welt upon, and some subjects have been excluded that have ppeared in other surgeries. It is natural, we suppose, that branch of medicine which has shown almost revolutionary hanges in the last ten years, should have an unusually rge crop of literature at this time, and among them the resent work will occupy an honorable place.

PUBLIC HEALTH.

Isolation of Infectious Disease at Home.—In his always interesting section on "Public Health," Malcolm Morris in the September *Practitioner*, approves of the suggestion that in planning a house some regard should be had for the future needs of the occupants in time of sickness. The idea is that one room should be set apart in design as the sick room *par excellence*. It should be shut off as much as may be from the common atmosphere and common noises of the dwelling—or, rather, it should be so arranged that it can be shut off at any time—and there should be a bath room and water closet at hand. The walls and floors and other surfaces should be impervious, so as to harbor no impurities and to admit of ready cleansing, and the furniture and fittings should be simple, with the same object. If in addition, there be a second room available for the nurse's use, the essentials for the proper seclusion of infectious cases are provided as far as is possible in a private house. A miniature hospital is then ready to hand and at ordinary times it can serve as a spare room or even as a bedroom in regular use, differing only from any other room in its adaptability to the special purpose in question. Such a provision would be an efficient adjunct to the sanitary authority in fighting the spread of the contagious and infectious diseases.

Cremation in Paris.—From statistics furnished by the Prefect of Police, it appears that cremation is gradually growing in favor in Paris, as shown by the following table:

Year.	Demanded by Families.	Debris from Hospitals.
1889	49	483
1890	121	2,188
1891	134	2,369
1892	159	2,261
1893	186	2,389
1894	216	2,247
1895 (four months)	75	1,065

The first apparatus was installed in the cemetery of Pere-Lachaise in 1887 and was of the Gorini model, used in Milan. The bodies were burned in this in from one hour and three-quarters to two hours, being reduced to extremely white ashes without any mixture of carbonized material and without odor or smoke. This apparatus proved unsuited for Paris, first because the incineration took too much time; secondly, the price of wood in Paris brought the cost of each incineration up to 20 or 25 francs. The authorities adopted a new apparatus constructed by M. M. Toisoul and Tradet. The results from this were very satisfactory. Incineration lasted from one hour to one hour and a quarter and cost but 3 francs. In Paris the *débris* from dissecting rooms alone amounts to 2,000 to 2,500 bodies yearly, and a crematory can be kept in use constantly, which considerably lessens the cost to private families. On account of this constant use it was necessary to provide a second crematory in case of necessary repairs to the other. The administration instead of ordering the Toisoul model, again adopted another new model, that of M. Fichet. Like the first, this is composed of a gas chamber furnishing carbonic oxid and of a recuperator furnishing hot air to the vaulted chamber in which combustion takes place. The difference is that the carbonic oxid only serves to heat the recuperator, and combustion is caused by the hot air alone, owing to the large size of the recuperator. A body by this method is consumed in 50 or 55 minutes, but the expense for fuel is slightly more—18 hectoliters of coke daily for the Fichet and 14 for the Toisoul-Tradet. The crematory monument of the city, the construction of which was begun in the Pere-Lachaise cemetery in 1886–87 is only partly built and occupies only about one-third of its ultimate extent.[1]

Modified Milk.—The average family physician will be apt to sympathize with Dr. Worcester, of Waltham, Mass., in his satisfaction at having at last found a "perfect substitute for breast milk." The Doctor confesses, as many of us might do, to having pinned his faith in turn upon the "statements which sleek agents have left with their blotters and pencils and lovely paper weights," and to have starved many a baby with the samples so left in his hands. The "perfect substitute," which he now enthusiastically recommends, is that produced by the Dresden process, the details of which he gives at considerable length.[2] Briefly summarized, this consists of the addition of the white of one egg and 13 drachms of milk-sugar to one pint of cow's milk, of 9.5 per cent. richness in fat, and one and a half pints of water. The milk-sugar is slowly added and thoroughly mixed with the egg-white, taking care not to beat air in the mixture, for egg foam will not mix well with water. To the paste so made, a pint and a half of water is slowly added, stirring constantly. This emulsion is then strained through fine linen into the sterilized milk which has also previously been cooled down below 100 degrees F. Slight stirring or shaking will now complete the mixture when it may be poured into the required number of nursing bottles. These, stoppered with sterilized cotton, can then be kept cool and warmed as needed. If sufficient care is taken in preparation, the mixture will keep for days and even months.

Medical Climatology of Peru.—In the study of the medical climatology of Peru, especial attention should be directed to paludism, verruga, goitre and oroya fever, which are very frequent. Lima, the capital, situated six miles from the coast and 150 meters above the sea level, contains 120,000 inhabitants. It is in a valley surrounded by several chains of mountains which slope toward the ocean. The climate is warm; the sky, cloudy in winter, is clear in summer although at this season a thick fog prevails in the morning which is dissipated by the heat of the sun. This is a constant phenomenon on the Peruvian coast—where it is known as *camanchaca*. Extreme temperatures are in summer 30 degrees C., winter 13 degrees; annual mean 22 degrees. A noteworthy fact is that whereas in former times the seasons, especially the spring, were well defined, now they are but slightly marked and pass from one to the other without any great transition. Earthquakes, invariably preceded by great rains are very frequent particularly during the equinox. Paludism heads the list of common diseases, 50 per cent. of the total. The "carrion disease"— new name for verruga, which was endemic at the time of the Incas—is found in two forms, the acute, or fever of the oroya, with or without consecutive eruption; the other, the verruga audina o peruana, a simple eruption without fever. The disease is attributed to drinking the water from certain streams which the Indians never use, even for their horses and mules. In 1843, Tschudi wrote that the disease is manifested, first, by sore throat, pains in the bones, and many febrile symptoms; within a few days an eruption covers the whole body, the lesions are red in color and some are as large as an egg; hemorrhages occur with such abundance that the patient's strength is much reduced. After summing up recent researches and the experimental inoculations submitted to by a medical student, Ayendano concludes that verruga is to be considered as a zymotic disease belonging to the telluric group with malaria, cholera and yellow fever, and that we may suppose, from analogy, it is due, like them, to the existence of a specific microörganism; that it is inoculable, but

[1] Revue Scientifique.
[2] Boston Medical and Surgical Journal, Sept. 19, 1895.

that there is not sufficient evidence yet to prove that it is contagious. Goitre and cretinism are frequent in the valley of Villamayo. Uta, which is a species of lupus, is, according to Ugaz, endemic in certain valleys on both slopes of the Andes. The lesions are usually found on the uncovered parts of the body. In February, 1891, in Lima, and especially in Jesus Maria convent, there occurred many cases of a fever with infectious characteristics, to which many distinguished persons succumbed and which threatened to spread indiscriminately. The National Academy of Medicine attributed this outbreak to the bad condition of the sewers, intra-urban cemeteries, and burial in churches.[1]

Health Reports.—The following health reports have been received at the office of the Supervising Surgeon-General, Marine-Hospital Service:

SMALLPOX—UNITED STATES.

Arkansas: Clay County, August 7 to September 18, 43 cases, 7 deaths.
Louisiana: New Orleans, September 7 to 14, 2 cases, 1 death.
Michigan: Battle Creek, September 7 to 14, 2 cases 1 death; Detroit, Marshall, Bedford Twp., smallpox reported present, September 7 to 14.
Texas: September 17 to 22, 1 death.

CHOLERA—FOREIGN.

India: Bombay, August 13 to 20, 2 deaths; Calcutta, August 3 to 10, 18 deaths; Madras, August 10 to 16, 1 death.
Turkey: Aleppo, August 14 to 21, 63 cases, 32 deaths.
Japan: Nagasaki, August 12 to 19, 71 cases, 55 deaths.

YELLOW FEVER—FOREIGN.

Cuba: Santiago, September 1 to 14, 27 deaths.
Mexico: Vera Cruz, September 5 to 12, 2 deaths.

SMALLPOX—FOREIGN.

Calcutta: August 3 to 17, 6 deaths.
Dublin: September 1 to 7, 4 cases.
London: September 1 to 7, 25 cases, 5 deaths.
Manchester: September 1 to 7, 5 cases, 1 death.
Montevideo: September 10 to 17, 1 case.
Odessa: August 24 to 31, 1 death.
Trieste: September 24 to 31, 2 cases.
Tuxpan: September 1 to 7, 3 deaths.
Southampton: September 24 to 31, 1 case.
Zurich: August 17 to 24, 1 case.

NECROLOGY.

JAMES MCCREARY SUDDUTH, M.D., formerly of Bloomington, Ill., at Colton, Cal., September 20, aged 68. He was graduated from Rush College in 1854 and built up an extensive practice in Central Illinois. He afterward gave up the practice of medicine and became a banker and stock raiser. He leaves a widow, one son, Dr. William Xavier Sudduth, of Chicago, and two daughters, Miss Alice Sudduth, National Superintendent of the W. C. T. U., and Miss Margaret Sudduth, Managing Editor of the *Union Signal*.

H. V. GREGG, M.D., of Connersville, Ind., September 12. He had practiced medicine in Connersville since 1858, served during the Civil War as Surgeon of the 124th Indiana Volunteers, and was mustered out of service with the rank of Major. He was an active member of the AMERICAN MEDICAL ASSOCIATION.

WM. S. LAYMAN, M.D., one of the best known physicians of Schoharie County, N. Y., died September 5, in Schoharie. He was 64 years old. He was a graduate of the Albany Medical College in the class of 1854. He was a member of the State Medical Society, and was prominent in various social organizations.

OGDEN M. RANDEL, M.D., of Oneida, N. Y., September 15, aged 68. He was graduated from the University of Michigan in 1854.——A. W. Thompson, M.D., of Circleville, Ohio, September 16, aged 81.——C. C. Brady, M.D., of Lincolnville, Ind., September 10, aged 40 years.——W. LeRoy Wilcox, M.D., of Irving Park, Ill., September 22, aged 35. He was thrown from his carriage and accidentally killed.——Nathaniel Allison, M.D., of Mexico, Mo., September 15. He was born in Orange County, N. Y., in 1818, and moved to Mexico in 1845, where he has since lived.——Howard Hopkins Winters, M.D., of Lancaster, Pa., September 15. He was graduated from the University of Pennsylvania and has practiced in Lancaster nearly twenty years.——W. O. Stauffer, M.D., of Indianapolis, September 11.——J. W. Crowders, M.D., of Dallas, Texas, September 11.——R. A. Herwick, M.D., of Smithton, Pa., September 17.——Newell P. Warner, M.D., of Syracuse, N. Y., September 16.——J. B. Galer, M.D., September 11, aged 74. He was born in Pennsylvania and was graduated from Rush Medical College.

[1] Journal d' Hygiene, Aug. 1, 1895.

MISCELLANY.

Bequests to Massachusetts Charitable Institutions.—Under the will of the late Mrs. Elizabeth T. Eldredge, of Newton, Mass., the Massachusetts General Hospital receives a donation of $10,000 for the establishment of free beds. She also bequeaths to the Home for Aged Men $25,000; to the Home for South Boston Orphans, South Boston, $2,000; to the Association for the Relief of Aged Indigent Females, $25,000; to the Society for the Prevention of Cruelty to Animals, $1,000.

Association of Women Dentists.—There is a dental association composed of female practitioners from all parts of the United States, and numbering forty-two active members. The chief condition of membership in it, is the possession of a diploma from some dental college in good standing. There are not less than one hundred and fifty women dentists in the country, and every year brings a larger number of students to the classes. A three-year course of study is required in the best of the schools to which women have access.

Thyroid Treatment of Uterine Fibroids.—Jouin has given thyroid extract in tablets of 0.15 ctgm, 4 to 8 tablets daily, in cases of uterine fibroids. In three cases he noticed a diminution of the hemorrhages and in two a partial disappearance of the tumor. In one case it was unsuccessful; two others are too recent to arrive at any conclusion. He believes that experimental researches into this phase of its sphere of activity should be undertaken. Physiology as yet, he says, furnishes only very hypothetical views as to the action of the thyroid juice in the therapeutics of fibroid tumors.[1]

Dr. Winslow on Female 'Cycling.—Dr. Forbes Winslow states that he has been misreported regarding his opinions of the bad effect of the bicycle on women. In a recent letter to the New York *Herald* he remarks that an interviewer approached him with some general questions on the subject, and that "in reply to his question, I stated that I personally did not approve of lady bicyclists (an opinion universally indorsed by physicians in my part of the world), but really, I had no practical experience in the matter. I was then asked as to the moral effect, but on this matter I expressed no statement of any description, and I desire that the words which have been quoted as mine should be emphatically denied, as being purely invention and not in any way based on what I said on the subject. I believe that many young girls run the danger of serious bodily illness from excessive straining, but it is a subject which I have never studied sufficiently well to be quoted as an authority. I agree with your remarks on the subject, and trust to your sense of fairness to emphatically deny what has been given broadcast as my opinion in the matter."

Aural Complications in Typhoid Fever from Secondary Infection.—It is not rare to see aural complications during the course of typhoid fever; these are generally, at least in the beginning, a simple catarrhal otitis. This otitis may continue catarrhal or it may become purulent. Suppuration of the middle ear is of considerable importance and generally ends in spontaneous perforation of the tympanic membrane, when there will be a purulent discharge from the meatus. In many cases the suppuration will invade the mastoid cells; then we will have chronic otitis and caries of the petrous portion. To prevent these serious results the ears of typhoid patients should be watched carefully. The treatment of otitis may be divided into two parts; first, we try to arrest its development and prevent suppuration; second, if suppuration follows or if pus is already formed it must be evacuated and its reformation prevented. For prevention, rigorous antisepsis

[1] Rev. Int. de Med. et Clin. Prac., 1895, No. 15.

the external ear and pharynx must be established by irrigating the canal several times daily with a boric acid solution; then drying the canal carefully, after which a plug of borated cotton is inserted.[1]

For Impostors in Massachusetts.—Section 10 of Chapter 458 of the Massachusetts Acts of 1894 has been amended so that it now reads as follows: "Whoever, not being registered as aforesaid, shall advertise or hold himself out to the public as a physician or surgeon in this Commonwealth, *or appends* to his name the letters, 'M.D.', or *uses* the title of doctor meaning thereby a doctor of medicine, shall be punished by a fine of not less than one hundred nor more than five hundred dollars for each offense, or by imprisonment in jail for three months, or both." Here the words "or appends," after the word "Commonwealth," have been substituted for the words "by appending," and the word "uses," following the letters "M.D." has been substituted for the word "using," thereby materially broadening the scope of the statute.

Density of Population in New York City.—In the London *Lancet* for August 10, the American correspondent presents the following analysis of the figures obtained by the recent census of New York city:

"The recent census shows that in the last twenty-five years the population of the city has increased from 900,000 to 1,900,000. One million people, in large part formed of the poor and ignorant emigrants from Europe, have been added to our population. A certain acre near Essex and Stanton streets, having 622 people on it, is the most crowded of any city in the world; but this maximum is nearly maintained for a whole square mile, including parts of wards, numbered 10, 11, 13, 14, and 17. In this square mile there are gathered together 370,000 people, mostly aliens, while the enumeration of children under 5 years of age is 53,000. From the census returns giving the number of children of school age—that is, from 5 to 14 years inclusive—the estimated number in this square mile is 63,000. Fifty thousand should be in the primary schools, but there are in this whole square mile but 27,000 sittings in the primary schools, so that there are some 20,000 children more than can be received in the schools of this district."

Loss of the Eyes through Mourning.—According to the veteran missionary Dr. Martin, of India, it is not an uncommon thing to see Hindoo women, one or both of whose eyes have been lost through the manifestations of grief. On inquiring the cause of all this, the usual reply is that she has lost a child, and has cried till she may be said to have cried her eyes out. "That is," says he, "probably what has actually occurred in many cases. It is always a son, sometimes a husband. I never heard of a woman crying seriously for the loss of a daughter. In one case, both eyes had been lost by way of variety, for a buffalo. Buffaloes are prized above cows for their milk, as they give more milk, and of a richer quality, though with something of a tallowy taste. The female acquaintance of this woman waited upon her and advised her to weep, and offered to join with her in her efforts." They came, both young and old, some with one eye, and some with the remains of two, and some with strabismus and scarrings, and baring their heads, proceeded to form a circle with their hostess in the center. Then all, with one accord continued to shriek piteously for the space of two hours, while they beat their thighs and temples alternately with both hands. This is the customary mode of public mourning, though usually practiced only on the death of a husband or son.

Cook County Hospital for the Insane.—The Commissioners of Cook County, Illinois, have adopted the following order:

WHEREAS, It is the purpose of the County Commissioners of Cook County to secure in the management of the County Hospital for the Insane efficient service in all departments thereof, and to provide that in the treatment of patients therein, the highest and most approved means shall be used; and

WHEREAS, It is deemed expedient, in order to obtain the highest degree of service in the management of said institution that the counsel and advice be had of a board of physicians eminent in their profession, who are not county employes, and who have no pecuniary interest in the management of said institution. Therefore, be it

Resolved, 1. That an advisory medical board, composed of three physicians eminent in the medical profession, be, and the same is hereby established, said board to be known and designated as the "Supervising Medical Staff of the Cook County Hospital for the Insane."

2. That the said supervising medical staff is hereby authorized to determine upon and formulate rules and regulations for the treatment and care of the patients in said hospital, and for the control and management of the resident physicians, nurses and attendants in charge of patients in said hospital, prescribing in said rules the duties and obligations of said physicians, nurses and attendants.

3. That the said rules, prepared as above, shall be submitted to the Board of County Commissioners, and upon the approval thereof by the said County Commissioners shall be and become of force and effect, and be binding upon all employes, physicians, nurses, and attendants at said hospital, and shall be in force by the superintendent of said hospital or asylum.

4. That the supervising medical staff is hereby authorized and empowered to inspect said hospital from time to time, and to examine into the condition, care, and treatment of the patients therein, and see that the rules and regulations thereof are enforced.

For the purpose of said inspection above provided the said supervising medical staff and the members thereof are hereby granted full freedom of said institution, and of each and every department thereof, at any time during the day or night. And the supervising medical staff is authorized to report to the President of the Board of County Commissioners at any time, when, in the judgment of its members, the good of the service requires it, any special or general matter relating to the condition, management, judgment, or rules of said hospital.

5. That until further ordered by the Board of County Commissioners there shall be employed at said hospital or asylum two physicians and two assistant physicians, who, subject to the supervision and direction of said medical staff, shall have charge of the medical treatment and care of the patients, as well as the direction of the nurses and attendants. It shall be the duty of said attending physicians to report in writing to the general superintendent any neglect, abuse, improper conduct, or infraction of the rules of any part of any nurse, attendant, or other employé. Said report shall be carefully pasted into a book and preserved for inspection. And it shall be the duty of the general superintendent to give notice in writing of every such complaint to the President of the Board of County Commissioners and to the chairman of the committee on Dunning institutions on the same day he receives such complaint.

6. That the County Civil-Service Commission be and the same is hereby requested to have applicants for positions of physicians at said hospital for insane examined as to their qualifications by the members of said supervising medical staff so far as practicable.

7. That Dr. Richard Dewey, Dr. Sanger Brown and Dr. Archibald Church be and they are hereby selected as members of the said Supervising Medical Staff of the Cook County Hospital for the Insane, to act in said capacity from the first Monday in October, 1895, until the first Monday in October, 1896.

Louisville Notes.

KENTUCKY SCHOOL OF MEDICINE.—At the meeting of the faculty of this school on the 21st inst., Dr. W. H. Wathen, who has been dean of the faculty for the past fifteen years, resigned, and Dr. Sam. E. Woody was elected to succeed him. Dr. Wathen will continue as professor of abdominal surgery and gynecology, but stated in tendering his resignation as dean, that his private business interfered with the proper conduct of the school. Dr. Woody, the newly elected dean, is professor of chemistry and diseases of children, and will continue as such, assuming his new duties October 1.

Hospital Notes.

THE new Silver Cross Hospital at Joliet, Ill., will be dedicated October 6. This hospital cost $50,000, and has been greatly needed owing to the large number of sick and wounded sent from the drainage canal.——The court at Norristown, Pa., has filed an opinion in the estate of John Boyer, deceased, allowing the Protestant Episcopal Hospital of Philadelphia $6,017. The deceased was a banker, and left a will giving Mrs. Mary Simpson the interest of $5,000 for life, and at her death the principal to be paid to the hospital. Mrs. Simpson died in 1892, and the auditor awarded

[1] Rev. Int. de Med. et Chir. Prat., 1895, No. 16.

the interest and accretions on the principal sum, to other devisees, but the hospital filed exceptions which the court sustained.——Work will be begun upon the new hospital at Moline, Ill., in the spring. The probable cost of the building will be $15,000.——The new hospital at Visalia, Cal., has been completed, at a cost of $6,000.——The ninth annual convention of the Superintendents of the State Hospitals of New York was held at Rochester on September 10, holding its sessions at the Rochester State Hospital. The State Lunacy Commission was represented by two delegates.

Society Notes.

The Hill County (Texas) Medical Society held a regular meeting September 12 at Hillsboro.——The Jackson County Medical Society held a meeting at Kansas City, Mo., September 12. Four papers were read.——A regular meeting of the Fremont County Medical Society was held at Sidney, Iowa, September 11.——The Butler County, Ohio, Medical Society at the last meeting, held at Hamilton, decided to hold semi-monthly meetings instead of monthly as heretofore.——The Tri-State Medical Society will hold a meeting at Des Moines, Iowa, October 1, 2 and 3. The last meeting of this Society was held in Jacksonville, Ill.——The Toledo, Ohio, Medical Association held a regular meeting September 20.——The Franklin County, Pa., Medical Society held a regular meeting in Chambersburg, Pa., September 17.——The eighty-second annual meeting of the Vermont State Medical Society will be held in Burlington, October 10 and 11. There are about twenty papers on the program, and the wide range of subjects gives promise of a beneficial meeting. The officers are: President, J. H. Linsley; Vice-President, F. F. Chaffee; Secretary, D. C. Hawley; Treasurer, D. G. Kemp.——The seventh annual meeting of the Tri-State Medical Society will be held in Chattanooga, Tenn., October 8, 9 and 10. The preliminary program shows that this meeting will be up to the standard maintained for several years past.

Washington Notes.

HEALTH OF THE DISTRICT.—The death rate took an upward turn during the past week. From 95 deaths reported to the Health Department in the week previous, the number went up to 122. The annual death rate followed in the same ratio from 17.93 to 23.02, which is the normal figure. The increase in mortality may be attributed to no particular cause, but seems to be all along the line. Dangerous contagious diseases still maintain a minimum degree and do not attract the attention of the medical faculty, there having been but one death reported from diphtheria. The increase in the number of deaths from typhoid fever has determined the Health Department to institute a prompt and scientific inspection as to the cause, with a view to removing it if possible. In other respects the health of the city is at the normal, both as to mortality among children under 5 years of age and those persons over 60 years of age.

TO INVESTIGATE TYPHOID FEVER.—The Commissioners have appointed Dr. George M. Kober, special medical inspector, to investigate typhoid fever, at the compensation of $5 per day, payable from the emergency fund. A more competent man could not be found to perform the duty. His previous scientific work on the subject is well known to the profession and he will undoubtedly make a very valuable report.

REPORT OF THE COLUMBIA HOSPITAL FOR WOMEN AND LYING-IN ASYLUM.—The Commissioners have received the report of Columbia Hospital from Nathaniel Wilson, President of the Board of Directors. For the coming year an appropriation of $25,000 for the maintenance of the hospital and training school, and $10,000 for the estimated cost of essential repairs to the main building are required. Patients discharged or left during the year, 566; died, 15; remaining under treatment July 1, 1895, 37. Of 573 patients treated, 473 were residents of the District of Columbia; 311 were colored, 26 white, and 1 an Arab. Of the children in the institution, 200 were colored, 101 white, and 1 Arabian; 1,690 new patients have been admitted to the dispensary, and 1,852 were treated. The total receipts of this hospital, including Congressional appropriation, were $32,348.98. Of this, $32,317,86 was expended for maintenance and improvements, leaving a balance of $31.12.

THE PUBLIC SERVICES.

NOTICE.—An Army Medical Board

Will be in session at Washington City, D.C., during October, 1895, for the examination of candidates for appointment to the Medical Corps of the United States Army, to fill existing vacancies.

Persons desiring to present themselves for examination by the Board will make application to the Secretary of War, before October 8, for the necessary invitation, giving the date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the medical college from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. The application should be accompanied by certificates based on personal acquaintance, from at least two reputable persons, as to his citizenship, character, and habits. The candidate must be between 22 and 29 years of age, and a graduate from a Regular Medical College, as evidence of which, his Diploma must be submitted to the Board.

Further information regarding the examinations may be obtained by addressing the Surgeon-General, U. S. Army, Washington, D. C.

GEO. M. STERNBERG, *Surgeon-General, U. S. Army.*

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from September 15, 1895, to September 21, 1895.

First Lieut. Paul F. Straub, Asst. Surgeon (San Carlos, Ariz.), is granted leave of absence for one month, to take effect on or about Oct. 5, 1895.

Capt. Louis A. La Garde, Asst. Surgeon, is granted leave of absence for one month, from the date of his relief from duty at Ft. Logan, Colo.

Major Henry M. Cronkhite, Surgeon, will report in person to the President of the Army retiring board to convene at Chicago, Ill., on Oct. 8, 1895, at such time as he may designate, for examination for retirement.

The following named officers are detailed to represent the Medical Department of the Army as delegates at the annual meeting of the American Public Health Association, to be held at Denver, Colo., Oct. 1 to 4, 1895: Lieut.-Col. Alfred A. Woodhull, Deputy Surgeon-General; Major Calvin DeWitt, Surgeon; Major Henry S. Turrill, Surgeon.

Major Clarence Ewen, Surgeon, now on sick leave of absence, is relieved from further duty at Ft. Walla Walla, Washington, and ordered to Ft. Bliss, Texas, for duty, relieving Major Blair D. Taylor, Surgeon. Major Taylor, on being thus relieved, is ordered to Ft. McPherson, Ga., for duty at that post.

Navy Changes. Changes in the Medical Corps of the U. S. Navy for the week ending September 21, 1895.

Asst. Surgeon M. S. Guest, detached from the "Minnesota," and ordered to the "Vermont."

Surgeon R. C. Persons, detached from the "Minnesota," ordered home and placed on waiting orders.

Asst. Surgeon C. M. DeValin, detached from the "Vermont," ordered home and granted six months' sick leave.

Asst. Surgeon C. P. Bagg, ordered to the "Vermont."

Surgeon D. N. Bertolette, ordered home and placed on waiting orders when the "Atlanta" goes out of commission.

P. A. Surgeon P. H. Bryant, detached from the "Baltimore," and ordered to duty on the "Petrel."

P. A. Surgeon W. F. Arnold, detached from the "Petrel," and ordered to special duty in investigating the plague in China and cholera in Japan.

Marine-Hospital Changes. Official list of changes of station, and duties of Medical Officers of the U. S. Marine-Hospital Service, for the fifteen days ended September 15, 1895.

P. A. Surgeon C. E. Banks, to proceed from Washington, D. C., to Vineyard Haven, Mass., for temporary duty, Sept. 11, 1895.

P. A. Surgeon A. H. Glennan, granted leave of absence for five days, Sept. 3, 1895.

P. A. Surgeon C. P. Wertenbaker, granted leave of absence for three days, Sept. 3, 1895.

P. A. Surgeon E. R. Houghton, granted leave of absence for twenty-three days, Sept. 12, 1895.

Asst. Surgeon L. E. COFER, granted leave of absence for seven days, Sept. 3, 1895.

LETTERS RECEIVED.

American Express Co., Chicago, Ill.; Andrews, B. J., Burlington, Vt.; Atkinson, W. B., Philadelphia, Pa.

Batman, W. F., Lebanon, Ind.; Bernd, H. & Co., St. Louis, Mo.; Bonyman, H. E., Everett, Mass.

Cone, Andrew, New York, N. Y.; Crosby, F. & Co., New York, N. Y.; Crawford, D. E., Centerville, Iowa.

D'Evelyn, F. W., San Francisco, Cal.; Dering, H. R., Chicago, Ill.

Edwards, Geo. A., Syracuse, N. Y.

Flint, Austin, New York, N. Y.; Friedenwald, H., Baltimore, Md.

Guila, W. H. & Co., Boston, Mass.; Gouley, J. W. S., New York, N. Y.; Girard, A. C., Ft. Sheridan, Ill.; Gould, H. M., Brooklyn, N. Y.

Halsted, T. H., Syracuse, N. Y.; Haughton, R, E., Richmond, Ind.; Heineman, Richard, Allegheny, Pa.; Herrington, E. B., Elida, Ohio; Harris, R. B., Savannah, Ga.; Hummel, A. L., New York, N. Y.; Hill, G. H., Independence, Iowa; Hopkins, J. G., Thomasville, Ga.

Johnson, H. L. E., Washington, D. C.

Kirkbride, M. F., Philadelphia, Pa.

Leach, R. B., Paris, Texas; Lebensohn, M. H., Chicago, Ill.; Lyman, L. J., Manhattan, Kan.

Maisch, C. J., Philadelphia, Pa.; Maynard, E. W., San Jose, Cal.; Maynard, F. B., Albany, N. Y.; Minor, J. C., Hot Springs, Ark.

Nichols, M. M., Healdsburg, Cal.

Potter, W. R., Providence, R. I.; Pepper, Wm., Philadelphia, Pa.; Penhall, F. W., Morton, Minn.

Ridlon, John, Chicago, Ill.; Rogers, F. D., Chicago, Ill.; Robinson, W. B., Tappahannock, Va.; Rio Chemical Co. (2), St. Louis, Mo.; Reed & Carnrick, New York, N. Y.

Sternberg, Geo. M., Washington, D. C.; Stevens, C. L., Athens, Pa.; Sutcliffe, J. A., Indianapolis, Ind.; Steinson, E. P., Tiverton, R. I.; Steiger, E. & Co., New York, N. Y.; Saunders, W. B., Philadelphia, Pa.; Schimmel, M. S. (2), Baltimore, Md.

U. S. Newspaper and Magazine Subscription Co., Clayton, Mich.

Woodbury, Frank, Philadelphia, Pa.; Wilson, N. L., Elizabeth, N. J.; Wakefield, W. H., Charlotte, N. C.; Warner, W. R. & Co., Philadelphia, Pa.; Woolen, C. V., Indianapolis, Ind.; Will, O. B., Peoria, Ill.; Wimberly, J. S., Sanford, Ga.; Wilkinson, A. D., Lincoln, Neb.; Wire, Geo. E., Chicago, Ill.